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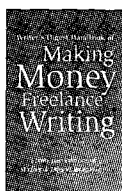


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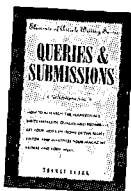
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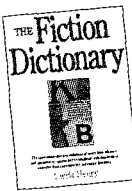
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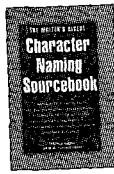


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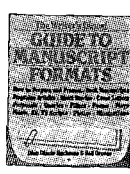


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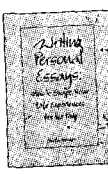
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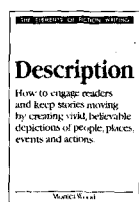
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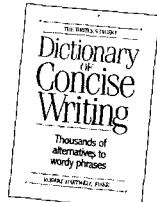
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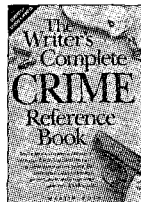
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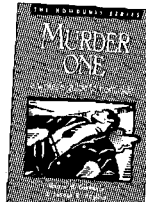
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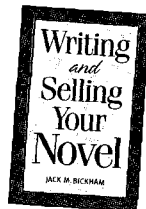
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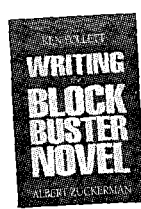
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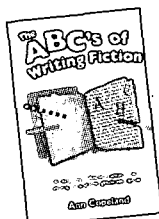
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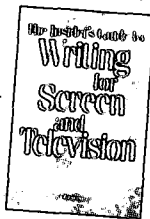
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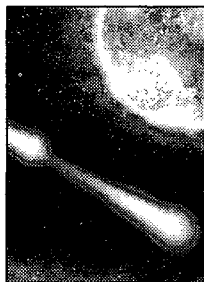
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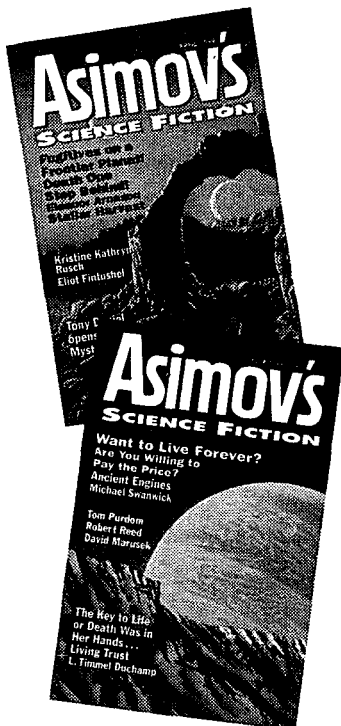
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Y2K II: THE DISASTER CONTINUES

Since my last column we have moved one month closer to the end of civilization as we knew it—the coming Year 2000 Computer Crisis is what I'm talking about here—and an event of such magnitude, now scarcely more than six months away, deserves a little further discussion in these hallowed pages.

The Y2K crisis (as it's familiarly called) is, in case you haven't been paying attention, centered around the notion that next January 1, when the unfamiliar digit "2" starts leading off the date, the world's computers will be utterly unable to cope and all manner of catastrophes will smite our banking system, our air control monitors, our reservoirs, our elevators, and everything else that has come to depend on computerized timing mechanisms. All but the most recently designed software and the computer chips that execute it, so the reasoning goes, will be unable to distinguish the year 2000 from the year 1900, because our computers were built to deal with two-digit dates and our dates do in fact have four digits. So everything will crash in one spectacular New Year's implosion.

Readers of last month's column will recall, I trust, that I expressed polite skepticism about this. Beyond any doubt, I said, the changeover to the new millennium is going to create *some* degree of chaos for *some* computerized operations. But a lot of effort and cash has gone into fixing the systems that had obvious areas of vulnerability, and most of the systems that didn't get fixed will

somehow limp through the transitional hours without extreme harm, I argued. The one thing that *isn't* going to happen, said I, is an apocalyptic worldwide calamity that will shut down all electric power and telecommunications, disrupt our water supplies, and close the banks.

I am not alone in this belief. Clifford Stoll, whose book *Silicon Snake Oil* is an insider's scathing view of the computer industry, said almost three years ago that the whole Y2K problem could be dealt with in a couple of days of energetic reprogramming. David Starr, a spokesman for the *Reader's Digest* company, went even further in a 1997 *Computerworld* piece, calling the whole thing a hoax. And Jim Wilson, the science editor of *Popular Mechanics*, thinks it's nothing more than an urban legend—that the computer industry couldn't possibly have been so dumb as to design its products in such a way that they couldn't tell the year 2000 from the year 1900.

But in fact not a lot of thought was given, back there in 1978 or 1982, to what would happen to computers when Y2K rolled around, because no one involved in the design of software or hardware in that distant era really believed that the products they were working on then would still be in use a couple of decades hence. And so corners were cut in year-digit programming to avoid taxing the very limited memory capacity of the computers of those days. Wherever just two digits would do for a year-designation instead of four, two digits were used. Why not? When we say, "Back in

'77," we all know that we're talking about the Jimmy Carter days, not about the inauguration of Rutherford B. Hayes.

So there really is some sort of Y2K problem looming before us, and it really is going to cause some sort of trouble for somebody. The big questions are, *How much?* and *For whom?*

A substantial fringe faction of survivalists and apocalypticists thinks that the troubles are going to be very widespread indeed. I discussed some of these people last time—the ones who are stocking up on bottled water, medical supplies, guns and ammunition, batteries, canned foods, Sterno, and all the rest of the usual survivalist paraphernalia. Since none of the previous catastrophes for which these people, or others like them, stashed away such goods ever materialized, it's hard for most of us to take their dire view of next January 1 seriously. But of course they may yet have the last laugh as we wake up that morning to confront something much worse than an innocent hangover. And I doubt that they will be willing to share their hoarded goods with us as we wander around, baffled and bereft, in a world without traffic lights, automatic teller machines, hot and cold running water, functioning gasoline pumps, or America Online.

(Since America Online and its ilk should still be operating more or less normally when this reaches print, worried readers might want to check in at some of the Internet sites these survivalists have set up. I am informed that www.prepare4y2k.com is a useful place to go, or www.year2000.com, and also www.remnant.org.)

The hard-eyed rifle-owning can-stashing survivalists are not the only ones concerned with the oncoming computer chaos. As I noted

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last time, it's also an issue for some fundamentalist Christians, who see the advent of Y2K as the time of fulfillment of the Biblical apocalyptic prophecies.

Thus we have Y2K books all over the upper echelons of the *Publishers Weekly* list of religion-oriented best-sellers. The key items in this publishing phenomenon are the four "Left Behind" novels by Tim LaHaye and Jerry Jenkins—theological thrillers that have been whizzing out of bookstores with the velocity of items by Tom Clancy or Stephen King. LaHaye is an evangelical Christian minister and a conservative political commentator; Jenkins is a veteran journalist.

Their books—*Left Behind*, *Tribulation Force*, *Nicolae*, and *Soul Harvest*—could easily qualify as science fiction or fantasy, but I haven't seen them discussed in the review columns of this magazine, nor have their authors applied for membership in the Science Fiction Writers of America. The basic story-line goes like this:

In the twinkling of an eye millions of people have vanished all over the world, leaving behind their clothing, jewelry, eyeglasses, and dentures. They haven't been grabbed by the flying-saucer folk, either. It is Jesus Christ Himself who has snatched them up, an event known as the Rapture, in which all true Christians are taken off to heaven as the Book of Revelation foretells. The rest of us, a group that will unquestionably include me and very likely a good many of you, get Left Behind. We are scheduled to face seven years of vast social upheavals, mighty earthquakes and fires, terrible wars, and the fury of the Antichrist, who takes advantage of the confusion to make himself secretary-general of that sinister organization, the United Nations. And so, volume after volume, all manner of

thrilling things take place in our transformed world.

What does all this have to do with Y2K? Why, we need only look in on the web site that the publisher of these books maintains—the address is www.leftbehind.com, and eighty thousand people a day are already going there—to find LaHaye saying that the worldwide computer crash "very well could trigger a financial meltdown leading to an international depression, which would make it possible for the Antichrist or his emissaries to establish a one-world currency or a one-world economic system, which will dominate the world commercially until it [the world, I assume] is destroyed."

LaHaye and Jenkins aren't suggesting any handy-dandy computer patches to get us through the crisis. They *want* everything to crash. The collapse can't be averted, anyway, because it's preordained. The solution they proffer is for you to save yourself by accepting Jesus Christ, so that you will be among the elect who are taken up to heaven in the Rapture while perfidious unbelievers like, well, you and me, are left to struggle dismally onward with our disabled laptops and our dangerous new one-world currency. (Euros ueber alles?) "Left Behind" T-shirts, CDs, children's books, and other associated artifacts are all selling quite nicely, too.

I don't know. The mathematician Jakob Bernoulli thought the earth would be hit by a comet in 1719, and the nineteenth-century American economist John Ballou Newbrough predicted the total collapse of all governments by 1947. Neither of these things happened. As a small boy in 1944 or 1945, I recall, I was made very uneasy by some Midwest preacher's prediction (duly printed in the New York newspapers) that the world was going to end the following Monday. It didn't. The Rev-

erend William Whiston calculated in 1696 that a great comet seen in 1680 would return in 2255 and smash the earth to pieces. The jury is still out on that one.

But you never can tell when someone's going to get it right. Is everything going to go poof next January 1, with the Rapture swiftly following? I don't know, but, gee, I sure don't think so, and therefore I have taken no steps to bring Jesus Christ into my life. This may be a big error on my part, although if you find this column missing from its usual place by the summer of next year you might do well to assume that I underwent a last-minute conversion and have been Raptured away from your midst.

Nor am I stockpiling canned peas, shotgun shells, typewriter ribbons, or twenty-dollar bills. I'm no better at bringing myself to believe the survivalist credo than I am at signing up with the born-again crowd.

One thing I *did* do a couple of months ago, just to see what impact Y2K would have on my very own personal life, was to set the date of my own computer ahead. The first time I tried it I typed in "01-01-00"

and was told that that was an invalid date. Two-digit dates have always worked just fine whenever I needed to change my computer's date from one moment in the twentieth century to another. Oh-oh, I thought, it's really going to happen. But then I tried again. "01-01-2000," is what I entered, and got the good old c-prompt with no nonsense about invalid dates. But when I went into my word processor there was a header at the top of the screen telling me that the date was September 13, 2000, which was not what I wanted to see. One more re-dating: "01-02-2000," I entered, and in a moment the screen was telling me that the date was January 2, 2000, right on target.

So there's evidently something a little wonky about 1-1-2000. But that's a Saturday anyway. I don't work on Saturdays, or Sundays either. By Monday morning, so my own Compac 386 assures me, everything's going to be okay, at least right here on the Silverberg premises.

And out there, where the really big computers are?

Stay tuned. Answers will be not long in arriving. O

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THE 1999 ISAAC ASIMOV AWARD

by Sheila Williams



Isaac Asimov Award: Sheila Williams, Marri Champie, Rick Wilber, Marissa Lingen, Aaron Fries, and Trent M. Walters

Photo credit: Beth Gwinn

Marissa Lingen, of Omaha, Nebraska, is the winner of this year's Isaac Asimov award for Undergraduate Excellence in Science Fiction and Fantasy Short Story Writing. Marissa has just graduated from Gustavus Adolphus College in St. Peter, Minnesota, where she majored in physics and minored in English. She plans to pursue a Ph.D. in Physics at the University of California at Davis.

The International Association for the Fantastic in the Arts, which co-sponsors the award with *Asimov's Science Fiction* magazine, flew the author to Ft. Lauderdale, Florida, for an all-expenses paid weekend at the annual Conference on the Fantastic in the Arts.

At the conference, Marissa had a chance to meet two long-time Davis, California residents, Kim Stanley Robinson and Karen Joy Fowler.

Other authors in attendance included Peter Straub, Suzy McKee Charnas, Daniel Keyes, John Kessel, Pat Murphy, Robert Holdstock, Jane Yolen, and Andy Duncan. The latter two authors will soon have new tales of their own appearing in the pages of *Asimov's*.

IAFA Award Administrator Rick Wilber, Gardner Dozois, and myself chose the Asimov Award winner, and the other finalists. We had a delightful group of award-winning stories this year, and for the first time ever, all of the authors came to the Conference. At a banquet on Saturday, March 20, I presented Marissa with a certificate and a check for \$500 from the magazine.

Marri Champie, last year's second-runner up and a senior at Boise State University in Boise, Idaho, returned to the conference as this year's second runner-up for her story "The White Seal." In addition, Marri was there as first runner-up for "The Mascarene Event." Since our second runner-up receives a one-year subscription to *Asimov's* and our first runner-up gets a two year sub, Marri is now in the midst of four consecutive years of complimentary *Asimov's*. We're glad she graduated this spring, as we hope to have her as a paying customer someday.

We had two honorable mentions for this year's award. Aaron Fries, from the University of Colorado, in Boulder, Colorado, took home a certificate for his story, "Through Your Metal Eyes." Trent M. Walters from College of the Ozarks in Missouri picked up a certificate for "Driven Like the Snow"—one of the very few humorous stories submitted to the contest.

Last year's winner, Emily Thornbury, has revised her award-winning story, "Damage Control" (nee "Wormholes"). That tale, along with a lovely photograph of Emily taken

at the 1998 conference by Robert Holdstock, can be found on our website—www.asimovs.com. We hope to get Marissa's story up there as well.

Asimov's is proud to support these academic awards with IAFA. The International Association for the Fantastic in the Arts is a worldwide network of scholars, educators, writers, artists, filmmakers, critics, editors, publishers, and performers who share an interest in studying and celebrating the fantastic in all artforms, disciplines, and media. The award is also supported by the School of Mass Communications at the University of South Florida in Tampa, Florida.

We are now actively looking for next year's winner. The deadline for submissions to the contest is December 15, 1999. All full-time undergraduate students at any accredited university or college are eligible. Stories must be in English, and should run from 1,000 to 10,000 words. No submission can be returned and all stories must be previously unpublished and unsold. There is no limit to the number of submissions from each writer. Each submission must include the writer's name, address, phone number, and college or university on the cover sheet, but please remove your name from the manuscript.

Before entering the contest, please contact Award Administrator Rick Wilber for more information, rules, and manuscript guidelines. Rick can be reached care of:

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Next year's winner will be announced at the 2000 Conference on the Fantastic, in the pages of *Asimov's Science Fiction* magazine, and on our website. ○

On the Net

James Patrick Kelly

CONTENT

Opening Rant

When I need the oil changed in my car, I bring it to the Wal-Mart down the street from where I live. If it's going to take longer than half an hour, I will, on occasion, take myself out to eat at the Chinese restaurant next door. The food isn't all that great, but I'm a sucker for egg rolls. Now I live in a tourist mecca, and in the entrance to the restaurant is a rack filled with flyers and brochures for local attractions. You've probably run across similar racks yourself. There'll be one for Fun World, the local amusement park, Animal World, the petting zoo, Putt Putt World, the mini golf course, World 'O Waves, the water slide, and Ye Olde Worlde, the local historical attraction. The flyers for these ventures invariably display lots of pictures of people in short sleeves having fun. They are slick, colorful, and almost entirely devoid of content.

Net pundits will tell you that you need to be on the www right now—no, *yesterday!* Presumably someone is taking attendance, perhaps the nerdocracy over at *Slashdot* (<http://slashdot.org/>). If they mark you absent, then your career will collapse, your friends will desert you for someone way cooler and all the electricity will leak out of your computer and make a big mess on the floor. Understandably, people are scared that they'll be consigned to the dustbin of the twentieth century.

So they slap any damn thing up on web, as if simply having a URL of one's own meant anything. The problem is that all too often these web sites are about as interesting as the flyer for World 'O Waves. They're nothing but glorified brochures, and it remains to be seen whether they do their perpetrators any good. They betray a profound disinterest in what the web is all about and why people use it. The best that can be said for them is that at least they're not printed on dead trees, so they won't end up choking the nation's landfills.

Whoa, Jim. Take a deep breath. Okay, I know that some brochure sites are the way they are because their owners lack the resources to do better. Others are first attempts, often as not handmade by folks who just last week found out the difference between HTML and HTTP. Lots of people are, like me, design impaired. Many are too spooked by the erosion of copyright to give content away. There are lots of excuses.

But . . .

Home, Sweet Home

I'm about to venture into Conflict-of-Interest-Land here, so keep an eye on me. *SF Site* (<http://www.sfsite.com>), host to both *Asimov's* (<http://www.asimovs.com>) and *Analog* (<http://www.analogsf.com>), has launched an ambitious new gathering of short SF sites on

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the web: **FictionHome** (<http://www.sfsite.com/fiction/fichome.htm>). According to SF Site's publisher, John Turner, "The site, which was launched on December 15th, 1998, isn't just a portal site, with a few links and some advertising. It has a rich assortment of content that includes reviews, columns on new anthologies and single-author collections, selected links to online fiction sites, and a back-issues column." In addition to *Asimov's* and *Analog*, at home in FictionHome are **The Magazine of Fantasy and Science Fiction** (<http://www.sfsite.com/fsf/>), the Hugo Award winning newsmagazine **Science Fiction Chronicle** (<http://www.sfsite.com/sfc/home.htm>), and four of the five fiction magazines published by **DNA Publications** (<http://www.sfsite.com/dnaweb/home.htm>) including **Weird Tales**, **Dreams of Decadence**, **Aboriginal Science Fiction**, and **Absolute Magnitude**. Last but not least are **Dark Planet** (<http://www.sfsite.com/darkplanet/>), the little webzine that could, and the reviewzine, **Tangent** (<http://www.sfsite.com/tangent/index.htm>). By the time you read this, chances are good that even more titles will have moved into their new FictionHome.

This is an excellent portal site. It has a secure server so that you can subscribe on-line to any of its print titles. And the site breaks new ground in reviewing. As John Turner says, "FictionHome can post reviews while the magazines have weeks left on the stands. In addition, we feature the terrific *Tangent Online*, which covers vastly more ground than even FictionHome, and is updated nearly as often (three issues in six weeks, reviewing dozens and dozens of separate magazines)." Turner is hardly overstating the case when he calls *Tangent* terrific. Not since **Orson Scott Card** (<http://www.hatrack.com/>) tried to re-

view all the short science fiction all by himself has there been such a monumental labor of love for the genre. Understand that not all of *Tangent's* many reviewers are equally gifted, but under Dave Truesdale's steady direction, *Tangent* has gained in stature with each passing year. Its online version shares most of its virtues

I can't very well review the *Asimov's* or *Analog* sites, but I believe I can say how much I enjoyed the *Fantasy and Science Fiction* site, which is somewhat similar. As I write this, *F&SF* features its four Nebula preliminary nominees in a reader friendly format. The site also offers a generous helping of past columns and reviews as well as several installments of Paul Di Filippo's sly humor pieces. I was also impressed by *Dark Planet*, the only true webzine in the mix, which is to say it has no print incarnation. *Dark Planet* is not a paying market and the stories it offers do not achieve the quality of *F&SF*, but this webzine is nicely designed and quite readable. It may not be long before the writers publishing in *Dark Planet* reach a far larger audience.

I must say that I was disappointed by the DNA sites—with the possible exception of *Aboriginal*. They're nicely designed but offer very little content, consisting mostly of some artwork and short teasers. These are the cyber brochures about which I ranted earlier. This is to say nothing against the excellent print versions of these 'zines, which have grown over the years to become important markets for the short form. But it would be hard to discern the unique vision of a *Weird Tales* or *Dreams of Decadence* from what's currently on the web. At least *Abo* makes an effort on its *Freebies* page with three stories and a handful of non-fiction pieces. Perhaps there's more content coming—why not give

them a nudge to let them know you're waiting? Similarly, *Science Fiction Chronicle* has taken only the most tentative of steps in releasing its vast backlog of info to the internet. But it's a start.

The bottom line on FictionHome: If you're reading this column, it's a must-bookmark.

Pay Per View

In a previous installment I whined about the lack of archival sites for SF short fiction. I imagined a site where I could download out-of-print classics that I read as a kid, as well as ground-breaking stories from the eighties and nineties. I even said I'd be willing to pay for access to such a story database. My helpful readership was quick to point me toward a couple of pertinent sites. Though not exactly what I'd wished for, they are nevertheless worth following.

Discerning reader Glen Engel-Cox of Washington, DC, was the first to e-mail me about **Alexandria Digital Literature** (<http://www.alexlit.com/>), although I believe I'd already chatted up its principal manager Dave Howell a couple of months before I started writing this column. I browsed the site last October but found it slow and a little buggy, so I decided to let it mature for a while before I brought it to your attention. Even now, Alexandria Digital Literature remains fussy about navigation and prefers that you click its icons rather than using the buttons on your browser. But that's a quibble.

For all its idiosyncratic use of ancient Greek themes, I like Alexandria Digital Literature a lot. It's well designed, chock full of content and fun. It has two commercial sections, the Library and the Marketplace. The Library features an AI

called Hypatia, which attempts to match titles to your taste. In the Foyer of the Library, Hypatia asks you to rate a long and eclectic list of books and stories, ranging from *Hamlet* to *Dune* to *Speaker for the Dead* to *The Cat in the Hat*. She digests this information, then develops personalized reading lists. I was fascinated by her ability to predict what I would like; many of the titles she chose for me are indeed some of my all-time faves, works like *Rosencrantz and Guildenstern Are Dead* by Tom Stoppard, *The Stars My Destination* by Alfred Bester and Raymond Chandler's *The Big Sleep*. She was also scarily accurate in her list of books I'd hate . . . but we won't go there just now. If you want to buy one of her recommendations, just click on the title and you're whisked to one of the largest new and used bookstores in the country, Powell's Books (<http://www.powells.com>) in Portland, Oregon, where your purchase is a click or two away.

In the Marketplace, you can download fiction for a fee charged to your credit card. I know some folks are leery of this, but, in my humble opinion, most web transactions are at least as secure as handing your credit card to an underpaid and disgruntled waiter. There are more than two hundred stories available, including work by award winners like **Robert Silverberg** (<http://www.connectexpress.com/~jon/silv/home.htm>), **Vonda McIntyre** (<http://www.sff.net/people/Vonda/>), and **Bruce Holland Rogers** (<http://www.sff.net/people/bruce/>). The titles you can download are all fairly recent, so the Marketplace is not exactly a repository for the deep history of the genre in the same way that the Library is. And I was slightly nonplused by the pricing structure in the Marketplace: the stories seemed a tad overpriced. I guess I'm too cheap to pay \$1.25 for a novel-

ette or \$.75 for a short story, even if they did win awards.

Vigilant reader Kevin N. Haw of Fullerton, California pointed me toward **Mind's Eye Fiction** (<http://tale.com/>) where Ken Jenks has a different idea. This site also offers both novels and short fiction but it lets the reader make the buying decision in much the same way that editors like Gardner and Sheila decide whether to acquire a story for *Asimov's*. It's no secret that a sharp editor can tell in the first couple of pages—or even in the first couple of sentences!—whether a story is worth her time. Stories that bore or annoy or make no sense are rejected only partially read. At Mind's Eye you can read for free until you decide either to give up on a story or are so hooked that you absolutely, positively have to find out what happens next. That's when you pay. I prefer this approach because it's exactly the way I read; if a story isn't working for me, I flip to the next one. Another thing I like about Mind's Eye is that it is particularly buyer-friendly. The prices are reasonable: short stories are sixteen cents, longer short fiction will cost you sixty cents and a novel goes for three bucks. And the method of payment is flexible: you can open a subscription account by credit card, check or money order or you can pay with **MilliCent** (<http://www.millcent.digital.com/>), one of the new web schemes for e-commerce payments. Or else you don't have to pay at all. If you agree to subject yourself to "an interactive advertisement from one of our sponsors," said sponsor will pick up the tab for your reading habit. This is the coming thing, folks; paying attention is worth something!

Once again, the fiction on Mind's Eye is mostly recent, although I think it has slightly better coverage of the good old stuff than Alexandria

Digital Literature with Hugo winning stories like Larry Niven's "Inconstant Moon," "Repent, Harlequin!" Said the Ticktockman," by **Harlan Ellison** (<http://www.harlanellison.com/ellihome.htm>) and "Melancholy Elephants" by **Spider Robinson** (<http://psg.com/~ted/spider/>).

If either Mind's Eye or Alexandria Digital Literature is to become the Amazon.com of SF short fiction, the prices will have to decrease and the selection will have to increase. But for now, they are what they are—and well worth your support.

Exit

I've listened to various pundits opine about the future of short fiction and magazines on the web. One interesting scenario is that someday, when we're all writers, everyone will "publish" on their individual web pages, thus eliminating the middleperson. *If you post it, they will come*, seems like a good idea in the abstract, but it does not take into account the brave and indispensable work that editors do. Who is going to plough through the thousands of dumb, derivative, incomprehensible and seriously deranged narratives that currently spill across editorial desks in order to find those precious few stories truly worth reading? Well, if writers can cut lose from magazines, maybe editors will go freelance too. The reader of 2020 may well visit the personal website of some not-yet-Dozois, where, for a modest fee, she'll gain access to a link page that will include only those stories the editor has personally reviewed and found worthy.

Sounds sort of like what I do in this column. *Hmmm.* ○

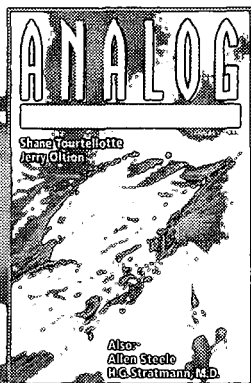
Jim's very own website is <http://www.jimkelly.net>

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Dear Editors,

I am a new subscriber of the magazine and am impressed with the variety of authors, subject matter and writing styles displayed. Though I have read SF for more than thirty-five years, my tastes are limited and I didn't expect to find more than one (or perhaps two) stories each month that I would really enjoy . . . or even read to the end. (I subscribed to help a nephew out with a school fund raiser.) I find myself reading the magazine cover to cover, and finishing stories I would have thought I couldn't get interested in. Thank you for broadening my horizons.

J.J. Evers
Coos Bay, OR

Dear Editors:

I haven't written to an SF magazine for over fifty years (it was *Thrilling Wonder Stories*), but I must tell you how much I loved—"liked" isn't strong enough—"The Spear of the Sun" (February 1998). Its alternative-world was brilliant; even better, the characteristic mood of the Father Brown stories was precisely captured, including that portentous and faintly creepy tone in the denouement. Even in a magazine as consistently innovative as yours, that story was—dare I say it?—astounding.

David Thomas
San Jose, CA

Gardner, Sheila, and other madpersons,

Wowee! Nifty website! Onward and upward!

Eliot Fintushel

Dear Folk:

I really enjoyed Stephen Dedman's short story, "Transit."

But what I really appreciated was his use of the singular e for a single person of unidentified sex. This use of e is one that I have been using for some time, with no feed-back. The English drop their "H's" when speaking of HE, so use of e or E is really quite logical and historical. We should all be using e instead of he or she whenever we do not choose to identify the sex of the third person. "Er" may also be used in lieu of his or her, but the possessive e's would be self-explanatory.

I hope all your readers realize that author Stephen Dedman is proposing a grammatical term to express correctly singular third person. No more "they" when "they" is only one. And I think we can all agree that to use: the person, the individual, the human, etc., is laborious. Long live E!

Paul Idaho
Sacramento, CA

Dear Editors,

Hello! I have been buying your magazine since the very first issue came out. Normally I skip the poetry for later reading, but in the March 1998 issue, I read as far as "The Hunter's Mother" by Mary A. Turzillo. I was in tears by the third stanza. I read it over and over, crying harder each time. I couldn't even bring myself to read anything else that night—the rest of the magazine had to wait (for once—I usually devour it cover-to-cover in a sitting). Your magazine has printed

most of the stories I hold closest to my heart. Thank you for publishing this poem. And please thank Mary for me for writing it.
Meow,

Cat Jaster
Bordentown, NJ

Dear Editor,

Mr. Spinrad composed an excellent essay regarding the current state of SF in his column titled "Who will resurrect Science Fiction?" in the March 1998 issue. He answers the question "Who killed science fiction?" by altering the question. "Not who, what?"

I agree with Mr. Spinrad that science fiction has been killed, or at least maimed, by its own success. The mighty dollar has reared its ugly little head once again at the expense of the consumer. Many people who would never pick up an SF book rush out to see films like *Men In Black* and *Independence Day*. I certainly do not blame the writers or film makers. They are only responding to public demand.

I used to look forward to going to the bookstores and browsing the SF section but I now find it difficult to wade through the multitude of titles. I pick up an interesting book only to learn that it's the fifth book in a series. Ugh. I keep hoping that I will see a reprint of Mr. Silverberg's *Dying Inside* or *Nightwings* that are "hard to find" now.

Don't get me wrong, I like *Star Trek* and the *X-Files*, too, but it would be nice to see less sequels and more single volume works. There certainly would be more variety and I suspect the writing would improve too. We can only hope that the Nike swoosh doesn't start appearing on the covers of SF books as it has on almost everything else.

G. Pearson
Kingston, Ontario
Canada

Dear Mr. Spinrad,

Ouch! Who will resurrect science fiction? Didn't notice it was dead. Perhaps you don't frequent the right bookstores. Certainly, *Star Trek* and *Star Wars* and other such novels are all over the place, but they are certainly not the only books available. I've been reading SF since my teens, which means thirty years or so, and there has always been a large portion which told a story, without necessarily being strictly accurate in its scientific background. Space opera, if you like. But then, a lot of readers are looking for entertainment, not necessarily a course in physics or high philosophical questions.

As far as readers who come to the field with the "desire to expand the spiritual horizons of their consciousness," I don't know. Any type of novel can bring this about, if it is well-written and has something to say that makes one think. It's not reserved to SF. A lot of SF has always been escapist in nature, rather than philosophical. It's not a new phenomenon. And a lot of readers have turned to fantasy rather than what you define as "real science fiction."

If you really want to find out why the younger generations are not reading, check your figures for levels of partial or full literacy for those coming out of schools. They're rather frightening.

Danielle Liard
Vancouver, BC
Canada

Dear Editors,

I'm not trying to denigrate Paul Di Filippo, but you've spoiled me for years with the quality of the book reviews written by Norman Spinrad. As a long time subscriber, I held off reading the book reviews until after I had finished the stories, just so that I would leave the month's reading with that feeling of

"can't wait to read" whatever it was that Norman discussed.

Judy Willson
from the Internet

To the *Asimov's* Staff:

I wanted to let you guys know how much I love to read *Asimov's*. It's the first fiction magazine I've ever read, and as long as you guys keep putting them out, it will be the only one I'll subscribe to. It's a great magazine—one edition lasts me a bit under a month, and just when I'm getting angry over lack of reading material, there's another one in my mailbox.

I'm the publisher of an online magazine, and I model it after *Asimov's*. God Bless.

Paul M. Speir
Publisher of *The Fictitious
Gazette Online*

http://www.angelfire.com/tx/the_fictitiousgazette/index.html

Dear Editors,

I enjoyed the story "A Question of Grammar," and I also liked the cover art for the April 1998 issue, but I don't understand the connection between the two. I guess the woman is supposed to be Azia, but I don't recall her ever sprouting wings in the story. She also appears to be shooting a laser out of her left hand. And who is that guy in the background? I would really like to understand this.

Michael Davisson
St. Ann, MO

The commissioned cover art for April fell through. Luckily, we had a beautiful piece of stock art by Wojtek Siudmak on hand.

—Sheila Williams

Dear *Asimov's*,

I've just finished reading "The Literary Agent" by Kage Baker in the July 1998 issue. What a quality read.

Nate King
from the Internet

To the editor:

I have subscribed to *Asimov's* since 1989 and since then have read every story in every issue. I enjoy most stories, shake my head over the awfulness of some, and am truly in awe of a few. "Ancestral Voices" in the August 1998 issue was one of those few.

Not only was the story a suspenseful page-turner, but Dozois and Swanwick succeeded in creating two unforgettable characters in the berserk alien and the tough old Yankee grandmother. The ending was slam-bam right on (often the ending of short stories tends to fall flat), and the authors' integrity in making sure that the loyal family dog is not the only sympathetic character to die is more than admirable.

I congratulate you on a fabulous story and an excellent magazine overall.

Victoria S. Walker
West Roxbury, MA

Dear *Asimov's*,

I have no choice in this matter. I simply must write to thank you for the incredible September 1998 issue of *Asimov's*. I consider it a gift, really, and each and every person listed on that first page deserves high praise—from Silverberg's "Gold-Digging Ants" (Fantastic!), to Spinrad's "On Books" (I'm so impressed!), to every single story and poem. All excellent stuff.

I alone among my friends and acquaintances read SF, so unhappily I am unable to share any of these rich imaginative stories with anyone. It grieves me in a way. I think SF (the good stuff, which you never cease to amaze me with) is as necessary as breathing! I'm not a fanatic, though. I've been reading SF and your magazine since (practically since) I learned how to read (I'm sorry I miss so many of the good books you

review as well. I'm not in an urban area so good finds are hard to come by). It certainly seems to me that today's authors are getting better all the time. Better and better. Where do all those fantastic ideas spring from? The alternate worlds, peoples, lifestyles, chemistries, social orders. All of you, simply amazing! I love it! Please don't stop, ever. Why can't everybody in the SF biz band together and start their own publishing house?

Okay. Really. I can't pat your backs enough.

Carla Owston
Pt. Arena, CA

Dear Editor,

Greg Egan's "Oceanic" is a great story, a credit to its sub-genre. It's always fascinating trying to guess the origins of a many-centuries-later-society-grown-from-stranded-interstellar-travelers-stuck-on-an-alien-and-difficult biosphere. You don't really have to guess with "Oceanic" but who cares, it's very well done. I'd love to see an anthology of new artists set in this sub-genre.

Thornton Kimes
San Francisco, CA

Dear Editors,

I just finished the October/November 1998 issue of *Asimov's*, and wanted to let you know how much I liked "The Summer Isles" by Ian R. MacLeod. I cannot say when I have read a story as well crafted. The story is haunting. The descriptions so vivid that I can still taste the sea salt on my lips. My regards to Mr. MacLeod for this fine piece.

Dianna May Fisher
Marcellus, NY

Dear Mr. Dozois:

Congratulations on a fine January 1999 issue.

A few comments:

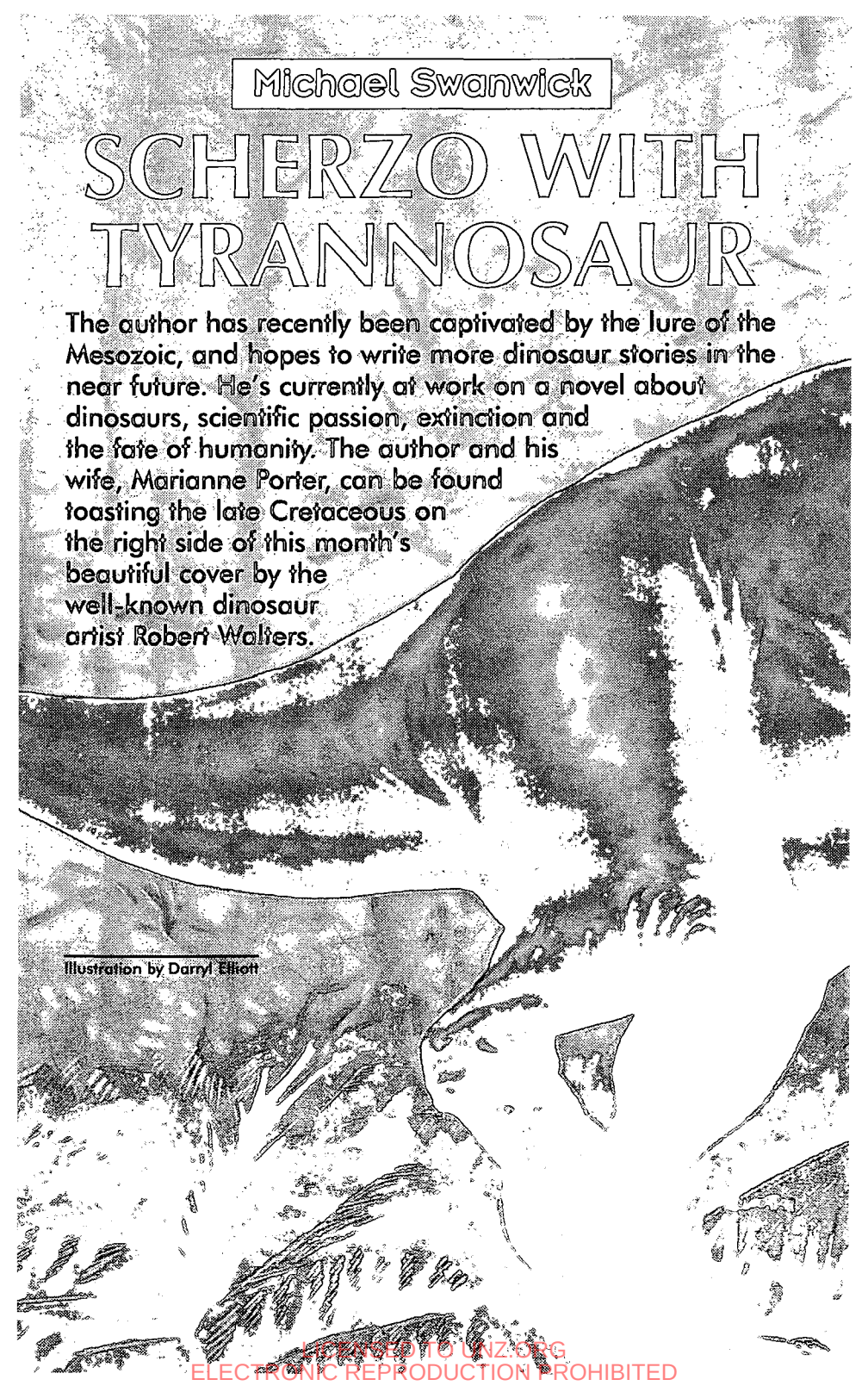
1) On behalf of the Alcor Life Extension Foundation, I'd like to thank David Marusek for a reference to our company in his story "Yurek Rutz, Yurek Rutz, Yurek Rutz." Alcor staff members are very pleased to learn that someone out there actually knows about us (particularly since Mr. Marusek's story drew such an amusing connection between names and immortality).

2) At the risk of sounding absolutely humorless, I must express misgivings over the permafrost burial discussed in this story. For the record (and to save myself from dealing with the usual confused inquiries), even the coldest natural temperatures on earth are insufficient to preserve cell membrane structure over the course of decades. Although reviving patients frozen under ideal conditions remains a debatable proposition at best, electron micrographs show that brain tissue at liquid nitrogen temperatures (-320 F) for over thirty years retains at least some semblance of connectivity between neurons.

3) Throughout the intriguing story "The Ice Forest," by Richard Wadholm, the author repeatedly uses the term "cryonic" to describe low-temperature phenomena. Please forgive my nit-picking, but the correct adjective would have been "cryogenic." Contrary to almost universal belief, "cryogenics" is not synonymous with "cryonics." "Cryogenics" refers to the general field of cold temperatures, while "cryonics" is specifically the practice of freezing legally dead humans in hopes of someday reviving them with advanced medical technology.

Finally, thank you for all of the great fiction you've offered us over the years!

Brian Shock, editor
Cryonics Magazine
Scottsdale, AZ

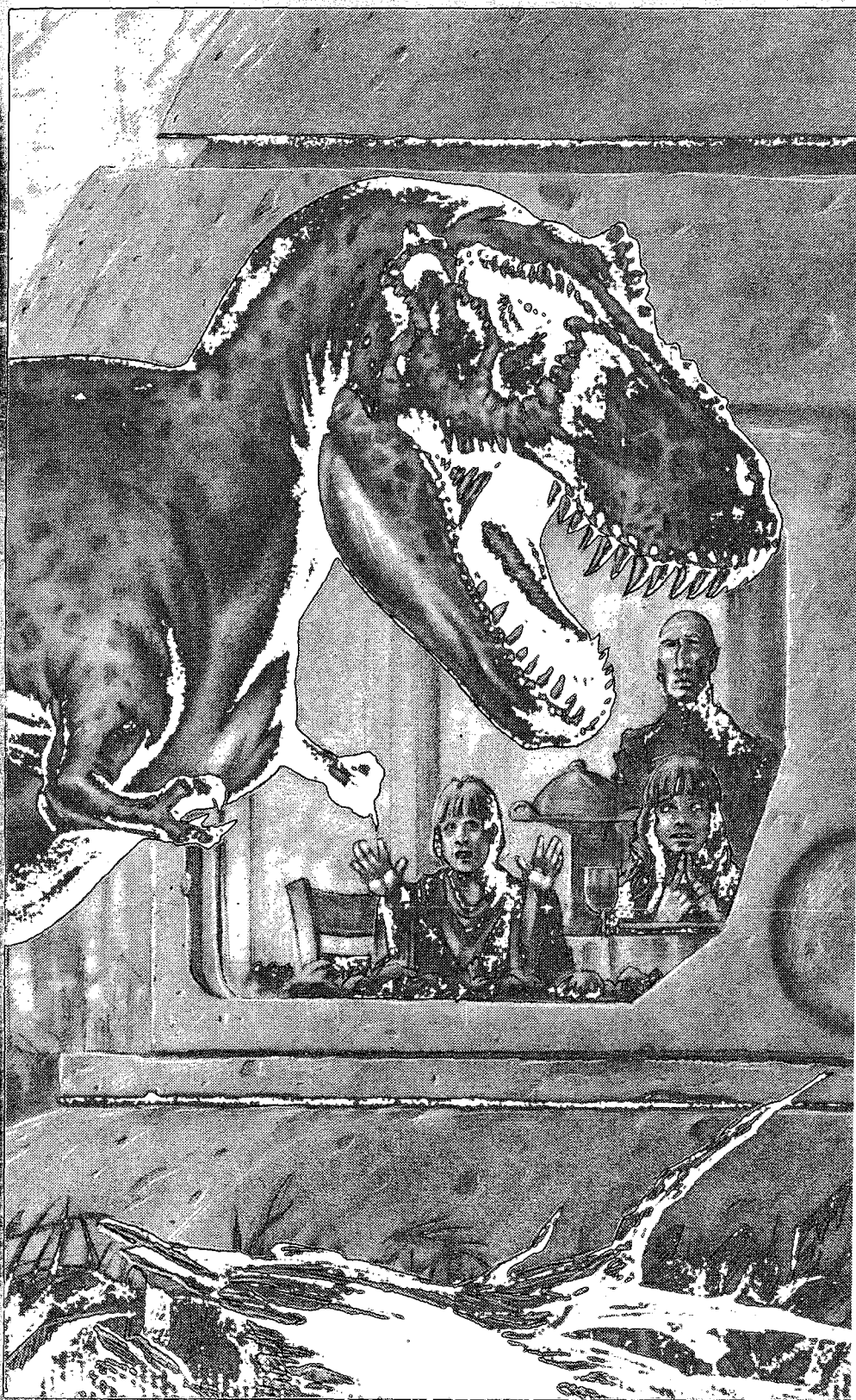


Michael Swanwick

SCHERZO WITH TYRANNOSAUR

The author has recently been captivated by the lure of the Mesozoic, and hopes to write more dinosaur stories in the near future. He's currently at work on a novel about dinosaurs, scientific passion, extinction and the fate of humanity. The author and his wife, Marianne Porter, can be found toasting the late Cretaceous on the right side of this month's beautiful cover by the well-known dinosaur artist Robert Walters.

Illustration by Darryl Elliott



A keyboardist was playing a selection of Scarlotti's harpsichord sonatas, brief pieces one to three minutes long, very complex and refined, while the *Hadrosaurus* herd streamed by the window. There were hundreds of the brutes, kicking up dust and honking that lovely flattened near-musical note they make. It was a spectacular sight.

But the *hors d'oeuvres* had just arrived: plesiosaur wrapped in kelp, beluga smeared over sliced maiasaur egg, little slivers of roast dodo on toast, a dozen delicacies more. So a stampede of common-as-dirt herbivores just couldn't compete.

Nobody was paying much attention.

Except for the kid. He was glued to the window, staring with an intensity remarkable even for a boy his age. I figured him to be about ten years old.

Snagging a glass of champagne from a passing tray, I went over to stand next to him. "Enjoying yourself, son?"

Without looking up, the kid said, "What do you think spooked them? Was it a—?" Then he saw the wranglers in their jeeps and his face fell. "Oh."

"We had to cheat a little to give the diners something to see," I gestured with the wine glass past the herd, toward the distant woods. "But there are plenty of predators lurking out there—troodons, dromaeosaurs . . . even old Satan."

He looked up at me in silent question.

"Satan is our nickname for an injured old bull rex that's been hanging around the station for about a month, raiding our garbage dump."

It was the wrong thing to say. The kid looked devastated. *T. rex* a scavenger! *Say it ain't so!*

"A tyrannosaur is an advantageous hunter," I said, "like a lion. When it chances upon something convenient, believe you me, it'll attack. And when a tyrannosaur is hurting, like old Satan is—well, that's about as savage and dangerous as any animal can be. It'll kill even when it's not hungry."

That satisfied him. "Good," he said. "I'm glad."

In companionable silence, we stared into the woods together, looking for moving shadows. Then the chime sounded for dinner to begin, and I sent the kid back to his table. The last hadrosaurs were gone by then.

He went with transparent reluctance.

The Cretaceous Ball was our big fund-raiser, a hundred thousand dollars a seat, and in addition to the silent auction before the meal and the dancing afterward, everybody who bought an entire table for six was entitled to their very own paleontologist as a kind of party favor.

I used to be a paleontologist myself, before I was promoted. Now I patrolled the room in tux and cummerbund, making sure everything was running smoothly.

Waiters slipped in and out of existence. You'd see them hurry behind the screen hiding the entrance to the time funnel and then pop out immediately on the other side, carrying heavily laden trays. *Styracosaurus* medallions in mastodon mozzarella for those who liked red meat. Archaeopteryx almondine for those who preferred white. Raddichio and fennel for the vegetarians.

All to the accompaniment of music, pleasant chitchat, and the best view in the universe.

Donald Hawkins had been assigned to the kid's table—the de Cherville Family. According to the seating plan the heavy, phlegmatic man was Gerard, the money-making *paterfamilias*. The woman beside him was Danielle,

once his trophy wife, now aging gracefully. Beside them were two guests—the Cadigans—who looked a little overwhelmed by everything and were probably a favored employee and spouse. They didn't say much. A sullen daughter, Melusine, in a little black dress that casually displayed her perfect breasts. She looked bored and restless—trouble incarnate. And there was the kid, given name Philippe.

I kept a close eye on them because of Hawkins. He was new, and I wasn't expecting him to last long. But he charmed everyone at the table. Young, handsome, polite—he had it all. I noticed how Melusine slouched back in her chair, studying him through dark eyelashes, saying nothing. Hawkins, responding to something young Philippe had said, flashed a boyish, devil-may-care grin. I could feel the heat of the kid's hero-worship from across the room.

Then my silent beeper went off, and I had to duck out of the late Cretaceous and back into the kitchen, Home Base, year 2140.

There was a Time Safety Officer waiting for me. The main duty of a TSO is to make sure that no time paradoxes occur, so that the Unchanging wouldn't take our time privileges away from us. Most people think that time travel was invented recently, and by human beings. That's because our sponsors don't want their presence advertised.

In the kitchen, everyone was in an uproar. One of the waiters was leaning, spraddle-legged and arms wide against the table, and another was lying on the floor clutching what looked to be a broken arm. The TSO covered them both with a gun.

The good news was that the Old Man wasn't there. If it had been something big and hairy—a Creationist bomb, or a message from a million years upline—he would have been.

When I showed up, everybody began talking at once.

"I didn't do *nothing*, man, this bastard—"

"—guilty of a Class Six violation—"

"—broke my fucking *arm*, man. He threw me to the ground!"

"—work to do. Get them out of my kitchen!"

It turned out to be a simple case of note-passing. One of the waiters had, in his old age, conspired with another recruited from a later period to slip a list of hot investments to his younger self. Enough to make them both multibillionaires. We had surveillance devices planted in the kitchen, and a TSO saw the paper change hands. Now the perps were denying everything.

It wouldn't have worked anyway. The authorities keep strict tabs on the historical record. Wealth on the order of what they had planned would have stuck out like a sore thumb.

I fired both waiters, called the police to take them away, routed a call for two replacements several hours into the local past, and had them briefed and on duty without any lapse in service. Then I took the TSO aside and bawled him out good for calling me back real-time, instead of sending a memo back to me three days ago. Once something has happened, though, that's it. I'd been called, so I had to handle it in person.

It was your standard security glitch. No big deal.

But it was wearying. So when I went back down the funnel to Hilltop Station, I set the time for a couple hours after I had left. I arrived just as the tables were being cleared for desert and coffee.

Somebody handed me a microphone, and I tapped it twice, for attention. I was standing before the window, a spectacular sunset to my back.

"Ladies and gentlemen," I said, "let me again welcome you to the late Cretaceous. This is the final research station before the Age of Mammals. Don't worry, though—the meteor that put a final end to the dinosaurs is still several thousand years in the future!" I paused for laughter, then continued.

"If you'll look outside, you'll see Jean, our dino wrangler, setting up a scent lure. Jean, wave for our diners."

Jean was fiddling with a short tripod. She waved cheerily, then bent back to work. With her blond ponytail and khaki shorts, she looked to be just your basic science babe. But Jean was slated to become one of the top saurian behaviorists in the world, and knew it too. Despite our best efforts, gossip slips through.

Now Jean backed up toward the station doors, unreeling fuse wire as she went. The windows were all on the second floor. The doors, on the ground floor, were all armored.

"Jean will be ducking inside for this demonstration," I said. "You wouldn't want to be outside unprotected when the lure goes off."

"What's in it?" somebody called out.

"Triceratops blood. We're hoping to call in a predator—maybe even the king of predators, *Tyrannosaurus rex* himself." There was an appreciative murmur from the diners. Everybody here had heard of *T. rex*. He had real star power. I switched easily into lecture mode. "If you dissect a tyrannosaur, you'll see that it has an extremely large olfactory lobe—larger in proportion to the rest of its brain than that of any other animal except the turkey vulture. Rex can sniff his prey—carrion, usually, but I didn't say that—from miles away. Watch."

The lure went off with a pop and a puff of pink mist.

I glanced over at the de Cherville table, and saw Melusine slip one foot out of her pump and run it up Hawkins' trouser leg. He colored.

Her father didn't notice. Her mother—her *step*-mother, more likely—did, but didn't care. To her, this was simply what women did. I couldn't help but notice what good legs Melusine had.

"This will take a few minutes. While we're waiting, I direct your attention to Chef Rupert's excellent pastries."

I faded back to polite applause, and began the round of table hopping. A joke here, a word of praise there. It's banana oil makes the world go round.

When I got to the de Chervilles, Hawkins' face was white.

"Sir!" He shot to his feet. "A word with you."

He almost dragged me away from the table.

When we were in private, he was so upset he was stuttering. "Th-that young woman, w-wants me t-to . . ."

"I know what she wants," I said coolly. "She's of legal age—make your own decision."

"You don't *understand*! I can't possibly go back to that table." Hawkins was genuinely anguished. I thought at first that he'd been hearing rumors, dark hints about his future career. Somehow, though, that didn't smell right. There was something else going on here.

"All right," I said. "Slip out now. But I don't like secrets. Record a full explanation and leave it in my office. No evasions, understand?"

"Yes, sir." A look of relief spread itself across his handsome young face. "Thank you, sir."

He started to leave.

"Oh, and one more thing," I said casually, hating myself. "Don't go anywhere near your tent until the fund raiser's broken up."

The de Chervilles weren't exactly thrilled when I told them that Hawkins had taken ill, and I'd be taking his place. But then I took a tyrannosaur tooth from my pocket and gave it to Philippe. It was just a shed—rexes drop a lot of teeth—but no need to mention that.

"It looks sharp," Mrs. de Cherville said, with a touch of alarm.

"Serrated, too. You might want to ask your mother if you can use it for a knife, next time you have steak," I suggested.

Which won him over completely. Kids are fickle. Philippe immediately forgot all about Hawkins.

Melusine, however, did not. Eyes flashing with anger, she stood, throwing her napkin to the floor. "I want to know," she began, "just *what* you think you're—"

Fortunately, that was when Satan arrived.

The tyrannosaur came running up the hillside at a speed you'd have to be an experienced paleontologist to know was less than optimal. Even a dying *T. rex* moves *fast*.

People gasped.

I took the microphone out of my pocket, and moved quickly to the front of the room. "Folks, we just got lucky. I'd like to inform those of you with tables by the window that the glass is rated at twenty tons per square inch. You're in no danger whatsoever. But you are in for quite a show. Those who are in the rear might want to get a little closer."

Young Philippe was off like a shot.

The creature was almost to us. "A tyrannosaur has a hyperacute sense of smell," I reminded them. "When it scents blood, its brain is overwhelmed. It goes into a feeding frenzy."

A few droplets of blood had splattered the window. Seeing us through the glass, Satan leaped and tried to smash through it.

Whoomp! The glass boomed and shivered with the impact. There were shrieks and screams from the diners, and several people started to their feet.

At my signal, the string quartet took up their instruments again, and began to play while Satan leaped and tore and snarled, a perfect avatar of rage and fury. They chose the scherzo from Shostakovich's piano quintet.

Scherzos are supposed to be funny, but most have a whirlwind, uninhibited quality that makes them particularly appropriate to nightmares and the madness of predatory dinosaurs.

Whoomp! That mighty head struck the window again and again. For a long time, Satan kept on frenziedly slashing at the window with its jaws, leaving long scratches in the glass.

Philippe pressed his body against the window with all his strength, trying to minimize the distance between himself and savage dino death. Shrieking with joyous laughter when that killer mouth tried to snatch him up. I felt for the kid, wanting to get as close to the action as he could. I could identify.

I was just like that myself when I was his age.

* * *

When Satan finally wore himself out, and went bad-humoredly away, I returned to the de Chervilles. Philippe had restored himself to the company of his family. The kid looked pale and happy.

So did his sister. I noticed that she was breathing shallowly.

"You dropped your napkin." I handed it to Melusine. Inside was a postcard-sized promotional map, showing Hilltop Station and the compound behind it. One of the tents was circled. Under it was written, *While the others are dancing.*

I had signed it *Don*.

"When I grow up, I'm going to be a paleontologist!" the kid said fervently. "A behavioral paleontologist, not an anatomist or a wrangler." Somebody had come to take him home. His folks were staying to dance. And Melusine was long gone, off to Hawkins' tent.

"Good for you," I said. I laid a hand on his shoulder. "Come see me when you've got the education. I'll be happy to show you the ropes."

The kid left.

He'd had a conversion experience. I knew exactly how it felt. I'd had mine standing in front of the Zallinger "Age of Reptiles" mural in the Peabody Museum in New Haven. That was before time travel, when pictures of dinosaurs were about as real as you could get. Nowadays I could point out a hundred inaccuracies in how the dinosaurs were depicted. But on that distant sun-dusty morning in the Atlantis of my youth, I just stood staring at those magnificent brutes, head filled with wonder, until my mother dragged me away.

It really was a pity. Philippe was so full of curiosity and enthusiasm. He'd make a great paleontologist. I could see that. He wasn't going to get to realize his dreams, though. His folks had too much money to allow *that*.

I knew because I'd glanced through the personnel records for the next hundred years and his name wasn't there anywhere.

It was possibly the least of the thousands of secrets I held within me, never to be shared. Still, it made me sad. For an instant, I felt the weight of all my years, every petty accommodation, every unworthy expedience. Then I went up the funnel and back down again to an hour previous.

Unseen, I slipped out and went to wait for Melusine.

Maintaining the funnel is expensive. During normal operations—when we're not holding fund-raisers—we spend months at a time in the field. Hence the compound, with its army surplus platform tents and electrified perimeter to keep the monsters out.

It was dark when Melusine slipped into the tent.

"Donald?"

"Shhh." I put a finger to her lips, drew her close to me. One hand slid slowly down her naked back, over a scrap of crushed velvet, and then back up and under her skirt to squeeze that elegant little ass. She raised her mouth to mine and we kissed deeply, passionately.

Then I tumbled her to the cot, and we began undressing each other. She ripped off three buttons tearing my shirt from me.

Melusine made a lot of noise, for which I was grateful. She was a demanding, self-centered lay, who let you know when she didn't like what you were doing and wasn't at all shy about telling you what to do next. She required a lot of attention. For which I was also grateful.

I needed the distraction.

Because while I was in his tent, screwing the woman he didn't want, Hawkins was somewhere out there getting killed. According to the operational report that I'd write later tonight, and received a day ago, he was eaten alive by an old bull rex rendered irritable by a painful brain tumor. It was an ugly way to go. I didn't want to have to hear it. I did my best to not think about it.

Credit where credit is due—Melusine practically set the tent ablaze. So I was using her. So what? It was far from the worst of my crimes. It wasn't as if she loved Hawkins, or even *knew* him, for that matter. She was just a spoiled little rich-bitch adventuress looking for a mental souvenir. One more notch on her diaphragm case. I know her type well. They're one of the perks of the business.

There was a freshly prepared triceratops skull by the head of the bed. It gleamed faintly, a pale, indistinct shape in the darkness. When Melusine came, she grabbed one of its horns so tightly that the skull rattled against the floorboards.

Afterward, she left, happily reeking of bone fixative and me. We'd each had our little thrill. I hadn't spoken a word during any of it, and she hadn't even noticed.

T. rex wasn't much of a predator. But then, it didn't take much skill to kill a man. Too slow to run, and too big to hide—we make perfect prey for a tyrannosaur.

When Hawkins' remains were found, the whole camp turned out in an uproar. I walked through it all on autopilot, perfunctorily giving orders to have Satan shot, to have the remains sent back uptime, to have the paperwork sent to my office. Then I gathered everybody together and gave them the Paradox Lecture. Nobody was to talk about what had just happened. Those who did would be summarily fired. Legal action would follow. Dire consequences. Penalties. Fines.

And so on.

It was two A.M. when I finally got back to my office, to write the day's operational report.

Hawkins's memo was there, waiting for me. I'd forgotten about that. I debated putting off reading it until tomorrow. But then I figured that I was feeling as bad now as I was ever going to. Might as well get it over with.

I turned on the glow-pad. Hawkins' pale face appeared on the screen. Stiffly, as if he were confessing a crime, he said, "My folks didn't want me to become a scientist. I was supposed to stay home and manage the family money. Stay home and let my mind rot." His face twisted with private memories. "So that's the first thing you have to know—Donald Hawkins isn't my real name.

"My mother was kind of wild when she was young. I don't think she knew who my father was. So when she had me, it was hushed up. I was raised by my grandparents. They were getting a little old for child-rearing, so they shipped me back-time to when they were younger, and raised me alongside my mother. I was fifteen before I learned she wasn't really my sister.

"My real name is Philippe de Cherville. I swapped table assignments so I could meet my younger self. But then Melusine—my mother—started hitting on me. So I guess you can understand now—" he laughed embarrassedly—"why I didn't want to go the Oedipus route."

The pad flicked off, and then immediately back on again. He'd had an afterthought. "Oh yeah, I wanted to say . . . the things you said to me today—when I was young—the encouragement. And the tooth. Well, they meant a lot to me. So, uh . . . thanks."

It flicked off.

I put my head in my hands. Everything was throbbing, as if all the universe were contained within an infected tooth. Or maybe the brain tumor of a sick old dinosaur. I'm not stupid. I saw the implications immediately.

The kid—Philippe—was my son.

Hawkins was my son.

I hadn't even known I had a son, and now he was dead.

A bleak, blank time later, I set to work drawing time lines in the holographic workspace above my desk. A simple double-loop for Hawkins/Philippe. A rather more complex figure for myself. Then I factored in the TSOs, the waiters, the paleontologists, the musicians, the workmen who built the station in the first place and would salvage its fixtures when we were done with it . . . maybe a hundred representative individuals in all.

When I was done, I had a three-dimensional representation of Hilltop Station as a node of intersecting lives in time. It was one hell of a complex figure.

It looked like the Gordian knot.

Then I started crafting a memo back to my younger self. A carbon steel, razor-edged, Damascene sword of a memo. One that would slice Hilltop Station into a thousand spasming paradoxical fragments.

Hire him, fire her, strand a hundred young scientists, all fit and capable of breeding, one million years BC. Oh, and *don't* father any children.

It would bring our sponsors down upon us like so many angry hornets. The Unchanging would yank time travel out of human hands—retroactively. Everything connected to it would be looped out of reality and into the disintegrative medium of quantum uncertainty. Hilltop Station would dissolve into the realm of might-have-been. The research and findings of thousands of dedicated scientists would vanish from human knowing. My son would never have been conceived or born or sent callously to an unnecessary death.

Everything I had spent my life working to accomplish would be undone.

It sounded good to me.

When the memo was done, I marked it **PRIORITY** and **MY EYES ONLY**. Then I prepared to send it three months back in time.

The door opened behind me with a click. I spun around in my chair. In walked the one man in all existence who could possibly stop me.

"The kid got to enjoy twenty-four years of life, before he died," the Old Man said. "Don't take that away from him."

I looked up into his eyes.

Into my own eyes.

Those eyes fascinated and repulsed me. They were deepest brown, and nested in a lifetime's accumulation of wrinkles. I've been working with my older self since I first signed up with Hilltop Station, and they were still a mystery to me, absolutely opaque. They made me feel like a mouse being stared down by a snake.

"It's not the kid," I said. "It's everything."

"I know."

"I only met him tonight—Philippe, I mean. Hawkins was just a new recruit. I barely knew him."

The Old Man capped the Glenlivet and put it back in the liquor cabinet. Until he did that, I hadn't even noticed that I was drinking. "I keep forgetting how emotional I was when I was young," he said.

"I don't feel young."

"Wait until you're my age."

I'm not sure how old the Old Man is. There are longevity treatments available for those who play the game, and the Old Man has been playing this lousy game so long he practically runs it. All I know is that he and I are the same person.

My thoughts took a sudden swerve. "God damn that stupid kid!" I blurted. "What was he doing outside the compound in the first place?"

The Old Man shrugged. "He was curious. All scientists are. He saw something and went out to examine it. Leave it be, kid. What's done is done."

I glanced at the memo I'd written. "We'll find out."

He placed a second memo alongside mine. "I took the liberty of writing this for you. Thought I'd spare you the pain of having to compose it."

I picked up the memo, glanced at its contents. It was the one I'd received yesterday. "Hawkins was attacked and killed by Satan shortly after local midnight today," I quoted. "Take all necessary measures to control gossip." Overcome with loathing, I said, "This is exactly why I'm going to bust up this whole filthy system. You think I want to become the kind of man who can send his own son off to die? You think I want to become *you*?"

That hit home. For a long moment, the Old Man did not speak. "Listen," he said at last. "You remember that day in the Peabody?"

"You know I do."

"I stood there in front of that mural wishing with all my heart—all *your* heart—that I could see a real, living dinosaur. But even then, even as an eight-year-old, I knew it wasn't going to happen. That some things could never be."

I said nothing.

"God hands you a miracle," he said, "you don't throw it back in his face."

Then he left.

I remained.

It was my call. Two possible futures lay side-by-side on my desk, and I could select either one. The universe is inherently unstable in every instant. If paradoxes weren't possible, nobody would waste their energy preventing them. The Old Man was trusting me to weigh all relevant factors, make the right decision, and live with the consequences.

It was the cruelest thing he had ever done to me.

Thinking of cruelty reminded me of the Old Man's eyes. Eyes so deep you could drown in them. Eyes so dark you couldn't tell how many corpses already lay submerged within them. After all these years working with him, I still couldn't tell if those were the eyes of a saint or those of the most evil man in the world.

There were two memos in front of me. I reached for one, hesitated, withdrew my hand. Suddenly the choice didn't seem so easy.

The night was preternaturally still. It was as if all the world were holding its breath, waiting for me to make my decision.

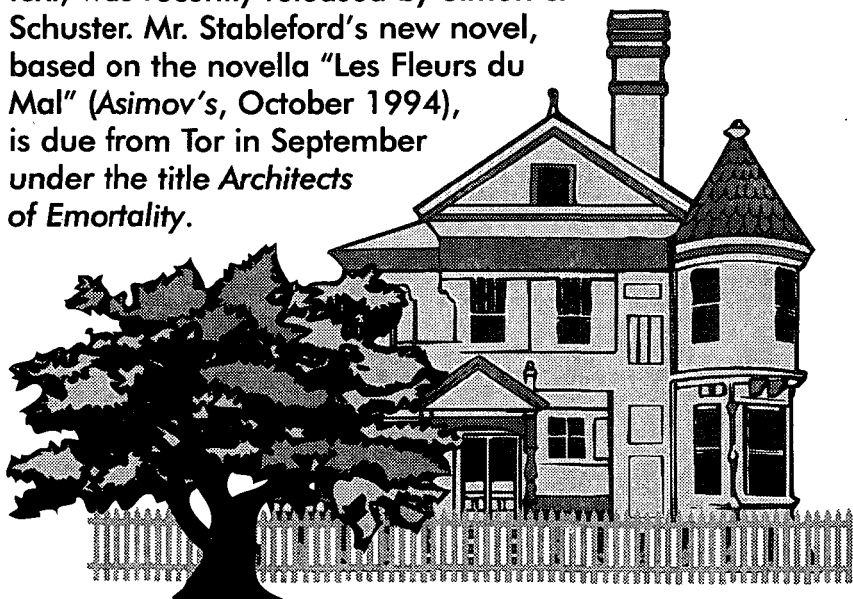
I reached out for the memos.

I chose one. ○

Brian Stableford

ANOTHER BRANCH OF THE FAMILY TREE

The Wonderland Press's coffee-table book *The Dictionary of Science Fiction Places*, for which the author wrote the text, was recently released by Simon & Schuster. Mr. Stableford's new novel, based on the novella "Les Fleurs du Mal" (Asimov's, October 1994), is due from Tor in September under the title *Architects of Emortality*.



The appeal hearing was set for the twenty-sixth of March, the day after my seventy-second birthday—which would have been Kathy's seventy-second birthday too, had she lived.

I couldn't contest the evidence. They'd taken root samples from the wall that was under threat and they had proof positive that it was my tree that was doing the damage, corrupting the foundations of the Manderleys' oh-so-precious house. It wasn't as if there could possibly be any mistake about the identification; there wasn't another tree like mine in the entire world. There never had been, and there never would be; its uniqueness was the most powerful card I could play up in court by way of fighting the destruction order—although I always intended to make my final defense on other grounds.

I honestly think that I might have carried it off, if we'd still had the jury system. They still had the jury system when Kathy and I were together; we'd grown up with it, and all the other quaint little institutions that made

the mad, bad old days of the twentieth century. We would have grown up with it a good few years longer, had Kathy had the chance to keep on growing. As things turned out, the tree eventually grew in her stead; if it had only stuck to growing *up*, everything would have been fine, but trees grow sideways as well, according to their nature. A tree must have roots, and the roots must spread out as far as they need to and as far as they can, in search of water to nourish the crown.

In the mad, bad old days of the twentieth century, water was easier to come by, even for trees. People hadn't grown quite so expert—or quite so desperate—in capturing and plundering every accessible drop. In the old days, the trees in the avenue where Kathy and I lived with Mother and Father had to be sycamores, because they were the only ones tough enough to get by in that kind of urban environment. When the Water Reclamation Schemes came in, not long after I went to live with Uncle Michael and Auntie Steph, even the sycamores had to be replaced by genetically engineered mosaics that were part-palm and part-euphorbia. When I first planted *my* tree, which appeared to uninformed observers to be a mere oak, I was assured by more than one passer-by that it couldn't survive, but it did. We Galtons have always been a tough family. We've never been ones to let ordinary difficulties stand in our way—or, for that matter, extraordinary ones like the foundations of other people's houses.

A jury would have been an ordinary difficulty. I could have appealed to a jury on compassionate grounds. Judge Humphrey Gerrard, on the other hand, was an extraordinary difficulty. To obtain a verdict from a judge, you have to make him see reason, and judges are not renowned for their ability to do that.

To make matters worse, Judge Humphrey—as his absurdly old-fashioned name suggested—was about the same age as I was. He would have looked even older, but he was wearing a wig—not the ceremonial kind, which had gone the way of juries, but the standard kind, which was still awaiting the long-belated day when my fellow wizards of biotechnology would finally get around to finding a cure for baldness. I knew that my being older than he was would make the situation even worse. These days, when everyone who doesn't stop a bullet can expect to reach a hundred and twenty, seventy-two shouldn't be reckoned old—but old attitudes die hard, especially among the old. When Judge Humphrey Gerrard looked at me, he didn't see a wizard of biotechnology; he saw a batty old woman who had no right to be wasting his time.

"I'm very sorry that this matter has arisen, sir," I told him, trying with all my might to sound humble and sincere. "It's unfortunate that my tree's quest for sustenance has taken her roots beyond the bounds of my own property, and even more unfortunate that she has come into contact with the foundations of someone else's house. I appreciate the fact that it's an old house, and I understand that its owners regard it as a precious object—but it is, at the end of the day, only a house. In this day and age, I cannot believe that any court in the world—least of all a British court—could, when faced with the decision as to whether a tree or a house should be sacrificed, condemn the tree."

"That seems to me to be a brutal simplification of the decision that I am required to make, Miss Galton," the judge riposted, lingering over the *Miss* as if to suggest that the implication of permanent singularity was somehow unnatural. "You are leaving out of account the fact that Mister Manderley's

house is situated within the boundaries of his own property, where it has every right to be, whereas the roots of your tree have recklessly exceeded the bounds of your own, committing a serious—not to mention dangerous—trespass.”

“What does a tree know of property rights?” I countered, attempting to sound pathetic rather than admonitory. “It is no fault of hers that she is ignorant of the boundaries inscribed by the law. A tree cannot *commit a trespass*; only creatures that know the meaning of sin can do that. A tree is innocent; she cannot be held accountable.”

“No one is trying to hold the *tree* accountable, Miss Galton,” the appalling Humphrey replied, allowing the ghost of a smile to play upon his lubricious lips. “The tree, like the ground upon which it stands, is your property. *You* are responsible for its trespasses. That is why *you* have been summoned to the court, while the tree continues to enjoy the bliss of its ignorance.”

He raised his right hand to stroke his chin, luxuriating in self-satisfaction. I could see why judges number alongside grief counselors and traffic coordinators as favorite targets of hobbyist terrorists. I knew that I had lost, but I had to keep going.

“I could no more prevent the roots of the tree from following their inbuilt imperative,” I said, with dignity, “than I could prevent the sun from rising in the morning. The fact remains: a tree is infinitely more precious than a house. A *unique* tree—and no one has disputed that there is not another tree like this one in all the world—cannot be condemned to death merely in order to save a house from the slight probability of collapse. The house can be restabilized, remodeled, or even rebuilt; if I could afford to pay for that to be done, I would do it gladly. If I could afford to pay for the entire Manderley house to be taken down brick by ancient brick and reassembled on another site, I would do it unhesitatingly. The fact that I cannot does not alter the point of principle. A house is a house and a tree is a tree; one is dead, the other alive.”

“Both, however, are artifacts,” Judge Gerrard replied, having put away his smile and dropped his hand to the oaken table before him. “Your tree is, as you say, unique—and that is because it is the product of genetic engineering. Its uniqueness is a mere matter of circumstance; you have, according to the evidence laid before me, worked throughout your life as a genetic engineer, and were once reckoned one of the country’s foremost experts in modified cloning. My expertise lies in another area, but I am assured by the experts that have appeared before me that the reproduction of the tree that stands at the heart of this dispute would be a perfectly simple matter—much simpler, in fact, than the reproduction of the house that has been handed down to Mister Manderley from his great-grandfather.”

I opened my mouth to protest but he would not hear me. That horrid right hand rose again, sternly forbidding me to speak while he hurried on.

“You might, if you so wished,” he told me, not caring about any reasonable objection I might make, “grow a dozen or a hundred trees exactly like the one whose roots are threatening Mister Manderley’s foundations. If you do, however, you would be well advised to plant them in situations where they could not threaten other people’s properties. Given that, I cannot see what grounds you have for asserting that the tree in question is so very precious that it should be allowed to demolish Mister Manderley’s house. I am, therefore, minded to confirm the destruction order that Mister Manderley obtained from the local authority.”

In the mad, bad old days I could, of course, have appealed to the House of Lords, but New Britain has put away such childish things along with jury trials, ceremonial wigs, and the principle that the sanctity of the family should always outweigh the rights of property. Legally, the matter was ended, and there was nothing further I could say or do. Alas, the silence that fell as Judge Humphrey lowered his imperious hand was too tempting to resist.

"Anyone who attempts to fell that tree," I said, risking an unaffordable fine—and hence, perhaps, imprisonment—for contempt of court, "will have to do it over my dead body."

The judge presumably thought that it was a kindness to pretend that he had not heard the remark—or perhaps he simply thought that someone as old and batty as I could not possibly mean what I said. Nobody knows as yet how long we might live, with the aid of the technologies that I and millions of others have labored long and hard to provide, and we all hope that even a hundred and twenty years might be a mere beginning, but people like Judge Humphrey Gerrard are not yet used to taking people like me entirely seriously.

I suppose I shall have to help them to learn. That is the principal duty left to me, now.

What a joy it was to be a twin, when genetic science was in its infancy! Kathy and I were in demand from the moment we were born. We always felt, by virtue of the attention lavished upon us, that we had been born to greatness. Our mentors and investigators encouraged that notion by continually calling attention to the implications of family tradition conveyed by our august surname, although we were not actually descended from the great Francis Galton. "Another branch of the family tree, no doubt," was all that Doctor Burden said, when Mother raised the quibble.

It would not have mattered had we been born Smiths or Joneses or Patels in some inner-city wilderness. Nor would it have made a difference had we had plainer faces, or IQs of merely average dimensions. The researchers would have beaten a path to our door in any case, and begged or bribed their way into our affections, so that we might play our part in their psychometric rituals. The fact remained, however, that we were Galtons, and we were stars. The psychometricians loved us, or so it seemed to us—and Doctor Burden seemed to love us most of all.

Many of our assiduous testers were clinical as well as kind, telling us little or nothing about what they were at, lest our understanding prejudice the results of their inquiries, but Doctor Burden wasn't like that. Doctor Burden believed in informed consent, and he wanted us to understand everything long before we were really capable of understanding anything. Doctor Burden also had a talent to amuse, which we appreciated. We never really loved Doctor Burden, but we did believe that he loved us, and we always did our best to live up to his expectations.

Some of our fellow twin-pairs resented the intrusiveness of the research—the physical probing, the ceaseless inquisition, the relentless challenging of the intellect with puzzle after puzzle—but Kathy and I thrived on it. Our participation was never less than wholehearted. Mother used to joke, if my memory serves me right, that the first words we learned to speak were not "Mummy" and "Daddy" but "genes" and "environment."

I am reasonably certain that by the time we were seven years old we al-

ready knew, partly by observation of our fellows and partly by pestering Doctor Burden with our own ceaseless inquisition, that most pairs of identical twins tended to adopt one of two contrasting strategies in dealing with their existential situation. Kathy and I made a *choice* rather than happening on our own strategy by chance—and having decided that we wanted to be “overlapping” twins rather than “complementary” twins, we became utterly determined to overlap more fully, and more ingeniously, than any twins ever had before. The only person we told about our choice was Doctor Burden, because we knew that he would laugh instead of frowning, and thought that he would love us all the more.

He did laugh; of that much, I can still be certain.

Complementary twins deal with their identity by carefully differentiating themselves from one another. They divide up their potential, so that one becomes the extrovert twin and the other the introvert, one the sporty twin and the other the reader, one the arty twin and the other the mathematician, one the twin who dresses in blue, the other the twin who prefers brown. Complementary twins are careful to forge separate identities, to become different people. They are the majority, although other people often fail to notice or appreciate their endeavors, being far more intent on spotting coincidences.

Overlapping twins, on the other hand, deal with their identity by becoming interchangeable. They pool their potential and develop it in collaboration, happily flattering the expectation of the world that they will act, think, and dress alike. In extreme cases, they develop private languages, make a habit of finishing one another's sentences, and deliberately set out to confuse anyone who tries to tell them apart. They regularly answer to one another's name and deny their own. They become helium atoms in a hydrogen world, two nuclei bound inseparably together. If they do so reflexively, they may become deeply disturbed, even psychotic—but if they do it carefully and consciously and cleverly, they may delight and fascinate the world.

It's not for me to judge the extent of our success, especially now, but Kathy and I certainly believed that we had contrived to fascinate the world. The coincidence-spotters delighted in our every contrivance, and we bathed in the glow of their delight, exchanging winks and nudges all the while with Doctor Burden, the sharer of our innermost secrets. Mother and Father had their reservations, of course, but they could not have interfered even if they had tried. Kathy and I were invincible.

I don't remember that Kathy and I ever formally *decided* to become geneticists ourselves. To have discussed the matter would have implied that there were other possibilities, and there were not. After all, no other ambition could have delighted our audience half so much.

Many pairs of complementary twins made the same decision, of course—it was obvious as the twentieth century gave way to the twenty-first that biotechnology would be the force that shaped the future, and that nothing else was really worth doing if you were young and had half a mind—but complementary twins always began by choosing divergent specialties. When Kathy and I were thirteen, our friends were already deciding that if one of each pair were to be involved in mapping and sequencing, the other must be involved in transgenic splicing, or that if one were to take an interest in computerized protein-design, the other must investigate embryonic switching-mechanisms. It seemed obvious to everyone, however—not mere-

ly to Kathy and myself—that *our* mutual field would be cloning.

We knew, as we blew out the thirteen candles on our shared birthday-cake, that we would become experts in asexual reproduction. We knew, too, that our achievements in that field would be astonishing. We *knew*, without an atom of doubt, that we would do great things, and that we would do them together. What we didn't know—how could we?—was that I, and I alone, would slip on a patch of black ice outside the front gate on the third of January in the year two thousand and two, and break my shinbone against the unforgiving pavement edge.

I had to stay in the hospital overnight. Hurrying to visit me the next morning—spurred on, I cannot doubt, by Kathy's urgent demands—Father drove the family car into another expanse of that same black ice, and skidded into the path of a number thirty-two bus.

Mother died instantly, Father only a few hours later.

Kathy hung on for four long days—and they were, I can assure you, *exceedingly* long days—but in the end she died without recovering consciousness.

The person I had been died with her, and another was belatedly born.

When the bailiff had gone off in search of a further court order, the police set up barricades across the street, one up the hill and one down. The crowd behind them continued to grow and the gawkers set about giving the police a great deal of grief. Every third adult and every second child had a video camera, and every one of them wanted to get closer. Zoom lenses and focused microphones can only accomplish so much; with so many competitors swarming around, whoever was going to sell their footage to the evening news was going to need an edge. When the time came, they would be avid for any favors I cared to throw their way.

You have to feel sorry for the police, nowadays; now that virtually all crime is machine-detectable, they have to devote the greater part of their time to suicides, sieges, and shooters. It's not the fun job it used to be.

For a few minutes, I thought that the Chief Inspector was actually going to wrestle Old Mister Manderley to the ground, cuff him, and ship him off to the station, but it didn't quite come to that. Old military men always have an advantage when dealing with the police; they understand the power of a sharply barked order. The gawkers protested, of course, even though Mister Manderley didn't have a camera or a mike, but their protests only allowed the Chief Inspector to repair his injured pride by rounding on them like a rabid rottweiler.

In the meantime, Mister Manderley marched right up to my wrought-iron gates, shoved them open and strode right in. For a moment, I thought he might come all the way up to the tree, but he stopped by the sign I'd posted saying DANGER: MINEFIELD. He was close enough to make himself heard. I moved a little further along the branch, clearing the foliage away so that he could get a clear sight of me—and, of course, the twin barrels of the shotgun.

"Can't we settle this between the two of us, Beth?" he said, posing as a reasonable man. "Do we really need this bloody circus?"

I couldn't remember whether he'd ever called me "Beth" before. Perhaps when he was young—but for the last thirty or forty years it had been "Miss Galton" on the rare occasions when he had had cause to address me at all.

"It's *your* circus," I reminded him. "Your court order, your bailiff. You can

get rid of it any time you want to."

"You must know that you can't win," he said. "You can't sit up that tree forever, no matter how much food you've got stashed away up there. You have to sleep some time. Even if you really had sown landmines around the tree, you couldn't save the bloody thing. Now that the destruction order's been confirmed, the law will take its course regardless. Why not save everybody a great deal of trouble and come down?"

"There really are mines," I assured him. "They're the kind that send the force of the explosion upward, so they'll blow the balls off anyone who comes too close, without hurting the roots of the tree at all. You're right about my having to sleep, of course—but while I'm hidden in the crown no one will know whether I'm awake or not, will they? If anyone treads on a mine, it'll wake me up soon enough."

"You do realize, I suppose," he said, the hurt in his voice suggesting that he was somehow the injured party, "that by threatening the bailiff with that gun you've placed yourself in a very dangerous situation? The police are now legally entitled to shoot you—which they could do very easily, at no risk to themselves, with a high-powered rifle that has five times the range of that antique you're holding. If you so much as threaten to fire that thing, that's what they'll do."

"That's what it will take," I told him. "Until then, nobody touches the tree. Nobody."

He attempted, and failed, to contrive an expression of infinite sadness and compassion. "We've known one another a long time, Beth," he said. "I can remember the day you first moved in—what was it, fifty-eight, fifty-nine years ago? I would have been friends with you, if you'd let me. We all felt for you, you know, when we were told about what happened. We would have given you all the help we could, if you'd only let us. We could have been friends, you and I—and even though we weren't, we've always been good neighbors, haven't we? We've never quarreled before. I always thought we understood one another. We've got things in common, when all's said and done. I might not have understood the workings of grief when you first came to live here, but I came to understand them, didn't I? You *know* that."

I knew why Andrew Manderley had wanted to be friends when I first came to live with Uncle Michael and Auntie Steph. He'd been sixteen then, and I'd always been pretty enough. We had nothing in common then, and hadn't now. He wasn't a twin, and never had been. What *he* meant by things in common was that he'd suffered losses of his own, albeit much later. The Manderleys were a military family; he'd lost his younger son in the Middle East, in the so-called Second Armageddon, and the older—*young* Andrew—in Siberia, in the one and only Ragnarok. People still called him *Old* Mister Manderley, not so much because he seemed old, even to the old and attitude-hardened, but because they remembered *young* Mister Manderley, Andrew junior—and his brother Peter, too.

"You don't understand anything," I told him. "We don't have *anything* in common. You'd kill a tree to protect bricks and mortar; I'd die before I let that happen."

"Nobody wants you to die!" he said, with a hint of screech in his voice. "I don't even want to kill the tree! I asked my expert whether there was any way we could shield the wall—dig a ditch on my side of the fence, amputate the roots that were causing the problem and put some kind of barrier in—but he said it would be a horrendous expense for no gain. He said the tree

would die anyway—*will* die anyway—because it simply can't get the water it needs to keep on growing. Even if we let it alone, it'll be dead within fifteen or twenty years—the only difference will be that it'll take my house with it. That house was built *two hundred years ago*. It's three times as old as your precious tree. It's my *home*. It was my father's home before me, and his father's before him."

"So what?" I said, brutally. "It won't be your son's after *you*, will it?"

He wasn't lying about what his so-called expert had told him, but his so-called expert was full of crap. I knew that the tree could go on for decades, maybe even centuries, if only she were allowed to extend her roots as far as was necessary.

"That's cruel, Beth," he said. I had to give him full marks for perspicacity—and patience too, given that he didn't lose his temper. "You inherited *that* house from your aunt—and Michael bought it when he first moved here, from someone else who'd bought it second-hand, or maybe fifth- or tenth-hand. You don't understand what it means to have a *family home*. Nobody does, these days—but *I* do, and *that's* mine. I would have built that underground barrier fifty years ago, if I'd known then what your bloody tree was going to do. Your *tree's* the invader, you know, not my house. My house is where it's always been—it never sent out special forces to conduct an undeclared war on a friendly neighbor. Your tree is a creature of the era of plague wars and ecological attrition, but my house is a product of honest and honorable times, and if one of them has to go, it will *not* be my house—even if I have to shoot you down from that branch myself."

"You won't have to do that," I assured him. "You're the son of a brigadier, grandson of a colonel-in-chief. People like you can always order others to do their dirty work. Even chief inspectors of police do what *you* say."

"You *can't win*, Beth," he said, as if repeating the magic spell might eventually make it work. "One thing a military man knows is that when you can't win, you might as well give in gracefully." Either he'd never studied military history or he took me for a perfect fool.

"If you want to kill the tree," I told him, "You have to kill me first."

For a moment, I thought that he was going to step past the warning notice, intent on marching all the way to the trunk and climbing up to pull me down, but he didn't. *He* knew the value of a tactical retreat. Maybe that was why he was the last of his line, having outlasted both his potential heirs.

I was glad to see him go, not just because he was gone, but because I really didn't want to see him blown to hell and back by one of the illegal mines that I really *had* planted all around the tree.

In the beginning, nobody was sure whether Kathy and I were identical twins or merely fraternal twins. The *merely* is mine, of course—Mother and Father wouldn't have minded one way or the other. Mother told us, when we were old enough to listen, that we hadn't been perfectly alike when we were born.

Later, Doctor Burden explained to us that it's quite common for genetically identical twins to diversify while still in the womb. Once a fertilized ovum has separated, its two daughters are subject to all manner of random factors that can assure one twin a larger share of the womb's resources. It often happens, in fact, that one twin outstrips the other so quickly and so extremely that she grows around her sister, who stops developing altogether. Sometimes, the twin enclosed in her sister's body can start to grow

again, many years later, becoming a *fetus in fetu*. Fortunately, Kathy and I weren't as ill-matched as that.

Of the two of us, it was Kathy who was born the larger, the stronger, the fitter—but I had caught up fairly rapidly. Even when things had evened out, though, it wasn't *obvious* that we weren't mere fraternal twins. There were other differences—differences of what Dr. Burden called “conformation.”

It wasn't until the avid researchers had examined our DNA that they got what they wanted: the final confirmation that we were, indeed, genetically identical. Identicals are rarer than fraternal twins; it's the availability of identicals that determines experimental sample size. Fraternal twins get tested, of course, examined just as relentlessly as identicals, but only identicals fascinate and delight the world. Doctor Burden and his more careful fellows could not have loved us half so well—or even a tenth—had we been mere fraternal twins.

Kathy and I, of course, were slightly disappointed to find that we weren't quite as identical as our genetic make-up entitled us to be. Given that we had elected to be overlapping twins, always ready and willing to trade names and places, the fact that very observant people might be able to tell us apart seemed to us to be a handicap, and a betrayal of all that our genetic identity had promised. We complained about it, to our one and only confidante.

“People read too much into the notion of identical twins,” Doctor Burden told us, sadly—knowing, I now presume, how guilty he was of exactly that sin. “They pay far more attention to the similarities than the differences, but identical twins always have differences, and not just because of the differing effects of their environment.”

“According to the Pope,” we told him, “clones have only one soul. We're identical twins, so we're a clone. We only have one soul, so we *ought* to be identical in every way.”

“The Pope's not a geneticist,” Doctor Burden informed us, although we already understood *that*. “The idea that all members of a clone are bound to be absolutely identical is rather silly. Think of it this way: every human body is a clone, every cell of which has exactly the same genes as every other—but a liver cell isn't like a nerve-cell, and a skin-cell isn't like a blood-cell. There are thousands of different kinds of cells, and what makes them different isn't having different sets of genes—it's having different subsets of genes switched on and switched off. You're twins and I'm not related to you, but your liver cells and my liver cells are much more similar to one another than your liver cells and your brain cells.”

“But we both have liver cells and brain cells in exactly the same places,” we pointed out. “We could still look exactly alike, and we should. Everything should switch on and off in exactly the same way—we're twins, after all.”

“But they don't,” he told us, cruelly. “Your genes do control the underlying switching process, but all kinds of other factors can get in the way—just like the factors which determined that Kathy was born slightly bigger than Beth. That difference diminished with time, but others increase. Your brains and livers aren't *exactly* alike, and nor are your faces. They could be a lot more different than they are—and I mean a *lot* more. The reason that humans look so very different from whales and ostriches has far less to do with the sets of genes we possess than with the way those genes are switched on and off as the embryos of humans, whales, and ostriches grow.

It's theoretically possible—conceivable, at any rate—that two embryos could have exactly the same DNA in their cells, and thus be identical twins, and yet one might develop into a whale and the other into an ostrich, just because of different switching sequences. So it's not entirely surprising that you don't look *exactly* alike. The differences will probably become more noticeable as you get older. At present, only your mother and father and a few of us here at the Institute can tell you apart, but by the time you're my age, anyone who knows you well will probably be able to do it—if they can be bothered to stop looking for the similarities instead of the differences."

He was right, of course. We became very adept at playing to people's expectations—at cultivating identical mannerisms, adopting identical speech-patterns—but we always knew that the extent to which we shared the same soul was limited. Everyone preferred to see the similarities, but *we* knew how much difference there was between us, and we were sensitive to every tiny increase in every dimension of difference. By the time we were thirty or forty, had Kathy lived, anybody and everybody would have been able to tell us apart, if they'd taken the trouble to pay proper attention.

We overlapped, but we were not *one*.

When Kathy's heart stopped, mine carried on beating, no matter how hard I willed it to cease—and it took me no longer to give up willing it than it took poor Kathy to die.

By the time I moved into the house next door to Andrew Manderley's precious family home, to live with Uncle Michael and Auntie Steph—who were Galtons, just as I was—I no longer wanted to die. I didn't want to be friends, with Andrew Manderley or anyone else, but I accepted that I would live, at least for a while. I even cherished the hope that I could repair the situation, if only I were clever enough. I thought that what had been done to me might yet be *undone*, that what had been taken away from me might yet be won back.

Even the cleverest of children can be a fool.

Unfortunately, I hadn't anticipated the cherry-picker. Somehow, fool that I was, I had forgotten to figure that particular possibility into my half-baked plans. I had stupidly assumed that the mines would make it impossible for anyone to extract me from the crown of the tree, even though I couldn't stay awake forever, without going to an *enormous* amount of trouble. Once the cherry-picker had been maneuvered into position by the big yellow truck, however, I had to reconstruct the likely scenarios in my imagination.

It didn't take me long to figure that the cherry-picker was likely to blow my plan sky-high. I was still trying to work my way around that thought when the plot moved on—their plot, not mine.

When the rusty platform first swung over the garden wall and moved horizontally toward my lofty position I withdrew into the crown of the tree, hiding myself as best I could within its recently renewed foliage. If only Old Mister Manderley had waited until May or June, I would have been much better able to conceal myself. On the other hand, if global warming hadn't made such a mess of the seasons, I might have seemed perfectly ridiculous amid branches that were virtually bare.

I assumed at first that the flak-jacketed man standing on the platform, clinging tight to the guard-rail, was a policeman or a soldier. Seeing that he had no gun—although there was no shortage of high-powered rifles behind

Andrew Manderley's garden wall—I took him for a trained negotiator, come to make a final plea followed by a final threat. Even when I saw his face, and saw how old he seemed to be—even by today's elastic standards—I didn't recognize him. After all, I hadn't seen him for nearly sixty years.

When Kathy died, of course, all the testing had stopped. Once I was alone, I ceased to be of any real value as an experimental subject. No longer part of a fascinating pair, I lost the power to fascinate and delight the world. I lost my coterie of devoted admirers: the men whose loving interest had illuminated my closely shared life.

"Hello, Beth," he said, while I still didn't know him. "They asked me to talk to you. They think that you're less likely to shoot me than any of your neighbors. I hope they're right. They also think that I might be able to figure out why you're doing this. I hope they're right about that too."

In the end, I guessed. His face, no longer handsome or loving, had become so unfamiliar that he might have been anyone at all, but I guessed.

"Hello, Doctor Burden," I said. "How's life among the clones? Still testing away?" I knew that he wasn't. The bottom had fallen out of that kind of research twenty-five or thirty years before. He knew that I knew, so he didn't bother to answer.

"Mister Manderley's root man showed me the samples he dug out of the house's foundations," he said, instead. "He never knew what to look for, of course, so he never had the slightest idea what he was looking at. He wasn't coincidence-spotting. I never forgot you, you know—either of you. I've always followed your career."

"Didn't you follow the careers of all your ex-subjects?" I asked him. "Professional curiosity would demand no less, I would imagine."

"Not all of them," he said. "In fact, you could say that you were the only one."

He didn't mean that I was the only person; he meant that I was the only one who was no longer half of a pair. He hadn't entirely lost his talent to amuse.

"If you know," I said, "then you can explain to them that I won't give up."

"I've told them what I know," he told me. "They don't understand. Nor do I. I *think* I understand the significance of the tree, but it still doesn't make sense to me. I kept good records, you know—even of the casual conversations we had. You were always under observation, Beth. We were interested in *everything*. I've still got the tape of my little lecture on the potential differentiation of clones—the one about the way that merely switching different genes on and off could make the difference between a whale and an ostrich."

"It was absolute balls, and you knew it," I said, resentfully. "If we'd been any older than twelve, you'd never have used such a lunatic oversimplification. I hadn't been in the cloning business for six months before I figured out the world of difference there was between growing tissue-cultures the size of houses and redesigning whole organisms."

"I was trying to make a point," he said, apologetically. "I was trying to tell you that you didn't *have* to regard yourselves as two parts of a single individual. I was trying to show you the way to free yourselves from everybody's expectations, including mine. *Especially* mine."

"Well, it wasn't necessary," I informed him, not making the slightest attempt to shield my bitterness. "Some of us find freedom, others have freedom thrust upon us. At first, I thought that the *real* problem was the other

way around—not how to make things more different but how to make them more the same. Your little homily about factors intruding on the switching process seemed to be identifying an enemy, then—a hurdle to be overcome. By the time the guys with the lucrative patents had figured out how to clone spare organs for transplantation and cosmetic rejuvenation, I'd already counted all the reasons why I couldn't clone myself a new twin a thousand times over. If I could have done it, I would have done it *properly*. If I could have produced another Kathy, I would have done *exactly* that, age-difference or no age-difference—but it's not as simple as that, is it?"

"No, it isn't," he conceded. "I can understand your wanting to do *that*. It's the rest I can't fathom."

"You should have played back a few more tapes, reviewed a few more of the things you'd already taught us. Two ways of coping, you'd always said. Two strategies. Some twins choose to be overlapping—and some choose to be complementary. Another oversimplification, of course, tailored to the shallow minds of seven-year-olds."

"Do you mean," he said, carefully, "that when you couldn't make an overlapping twin, you . . ."

The care with which he was choosing his words told me that he was as conscious of the gawkers as I was, and of all their zoom lenses and their focused mikes. He knew that it was all being recorded, however ineptly—and he was playing to the gallery. This must have taken him all the way back to the old days, when he was under observation along with all his subjects, his every word and gesture preserved for posterity. I didn't see why he should *still* get to write the script and direct the action, so I cut him off.

"It's not just a matter of switching things on and off, is it?" I snarled. "You can't turn a whale into an ostrich, no matter how young you catch her—and you can't *design* some other person out of your own cells. Maybe one day it *will* be possible to produce an embryo that really could develop into any of a dozen different functional forms—but we'll have to build the cells a hell of a lot more cleverly than natural selection built ours. At present, and for a while yet, all we can contrive are mosaics, and even they're not easy. Animal bodies are too complicated, and too delicately organized, to permit anything *really* adventurous. Plants are much more resilient—and they can also reproduce vegetatively. Even Humphrey Gerrard the famous hairless judge knows that. With plant-based mosaics, you don't need two identically transformed individuals to found a dynasty. Not in *theory*, anyhow. But nothing's ever as simple as it seems, is it?"

"Is that why you introduced clones of your own cells into the xylem of the tree? You were trying to set up an immortal cell-line—one that could keep on reproducing itself asexually forever?"

"Something like that," I agreed, stifling a sigh.

"Why didn't it work?"

"Because it's *not as simple* as that! It's that age-old fallacy about the identity of clones. Every time you take a cutting from a tree, the new tree that grows is subtly different from the old. The resilience of plants is limited; making a stable mosaic of the parent doesn't guarantee that the cutting will carry forward the same stability. You have no idea, Doctor Burden, how difficult it was to produce this one viable tree—but I think you can understand well enough why it remains the only one."

He actually hesitated over the possibility of delivering a lecture, for the benefit of the amateur newshounds. I have no idea whether his decision to

give it a miss was inspired by delicacy of feeling or an acute sensitivity to news-value.

"It's not *you*, Beth," said the man who had loved me, when I was part of something greater. "It may have some of your cells in it, but it's no more a part of you than a bandage into which you bled."

"No, she's not," I conceded. "Nor is she my sister, in any intelligible sense of the word. She's just a tree." My voice sank to a stage-whisper then, in the hope that it would seem to all the eavesdroppers that I intended the clincher for him and him alone. "But what am *I*, Doctor Burden?" I added, in a voice like gently rustling leaves. "*What am I?*"

The whole point, of course, was that the tree was just a tree—and a pretty lousy tree at that, as incapable of reproducing itself as I was. It was just a tree, but it was all I had: the only branch I had to sit on; the only flesh I had to defend.

The tree was innocent, but *I* wasn't. The tree had never done anything but follow the dictates of its own inbuilt nature, but I had no such excuse. I had been far more than that, once upon a time, and when I had become less than I had formerly been, I had tried to make *more* of myself, and had actually imagined that I could—but I had failed.

I was still failing. Thanks to the cherry-picker, I couldn't hold out long enough.

I had *tried*, over and over and over, to become something more than I was, but I had never contrived to make anything, or to be anything more than I had become when I had slipped on that patch of invisible ice and broken the person that Kathy and I had been, so comprehensively that all the king's horses and all the king's men and all the wonders of twenty-first century biotechnology had not been able to put it together again.

Doctor Burden was still a clever man. He was even older than I was, with attitudes even harder than mine or Judge Humphrey Gerrard's. He looked at me, as I looked at myself, without being able to see someone who still had fifty or sixty years to live, someone who still had strength left in her. He looked at me, and saw someone *old*, someone *finished*, someone unnaturally attached to a perfectly useless and perfectly meaningless tree. I could see myself in his eyes, without even bothering to close my own.

"They won't do it, you know," the man on the cherry-picker said, as kindly as he could. "They won't shoot you—unless, of course, you can bring yourself to shoot me. It'll have to be me, because no one else is stupid enough to come close enough, now that your neighbor's had his say. You won't shoot me, will you?"

He was pretty stupid himself, to say that while he was still within range—but he was right, for all the wrong reasons. I couldn't shoot him, and they wouldn't shoot me. That wasn't what I wanted.

Old Mister Manderley was right too, unfortunately; I couldn't stay awake forever, and the mines were no protection at all once they had the cherry-picker in place.

"You stupid idiot," I said, so softly this time that the mikes might not have been able to pick it up, although there was really no point in worrying about it. "Do you really think I'm trying to get myself killed? If that were all I wanted, all I'd need to do is put *this* gun to my head, or step down from the tree."

He looked genuinely surprised. Old attitudes die hardest among the old. He remembered me in my golden days, but all he saw now was a batty old

woman. He still had his own wits about him, though. He was probably pushing ninety, but *he* knew what an opportunity this was to play to the gallery, to recover a tiny echo of his former fame, his erstwhile authority and his long-lost lovability.

"Did you really think you could manufacture a nine-day wonder?" he said—and the uncertainty in his voice testified that he thought that perhaps I might have done so, if it hadn't been for the cherry-picker. The real question wasn't whether I could have attracted the eyes of the world, had I only got the story to run and run and run, but whether the eyes of the world were capable, even with all the help I could have given them, of weeping for the fate of a tree.

In the end, they plucked me from my coign of vantage like an overripe cherry, quite unharmed. They blew up the mines, and then they killed the tree. From their point of view, it had all been for nothing—nothing but a waste of everybody's precious time.

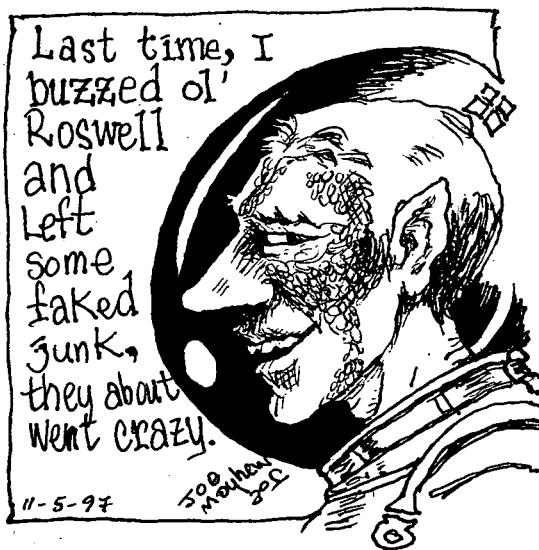
Maybe I should have shot Doctor Burden, or Andrew Manderley—but what would have been the point? What would that have made of me that I'm not already? And what am I, now, but exactly what I've been for the last fifty-nine years?

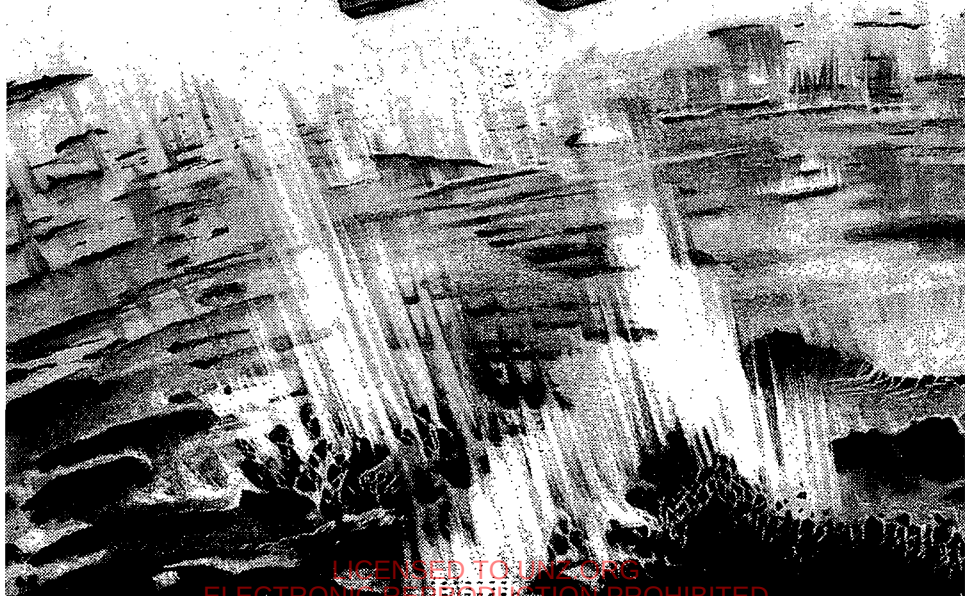
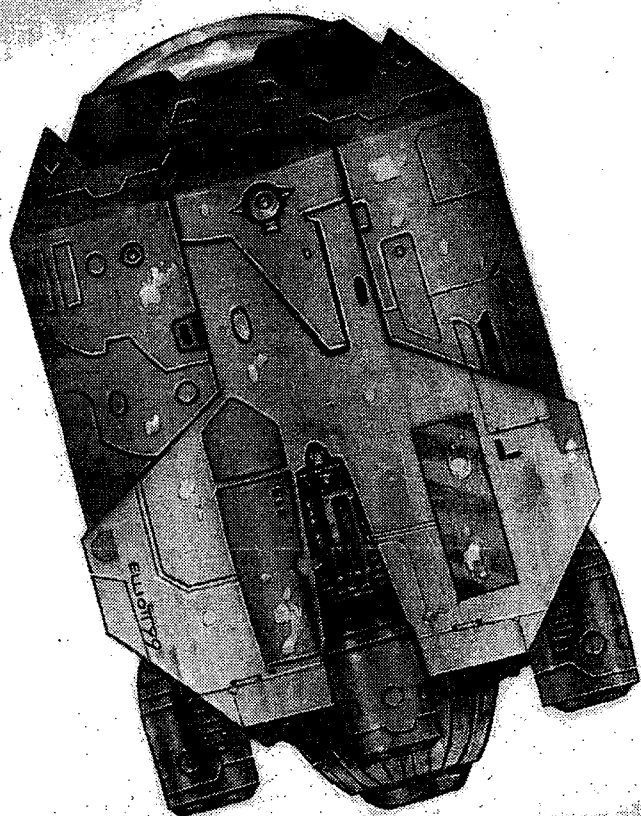
It has always been my fate to be the one left behind, the diminished survivor.

It's certainly not for lack of trying to be something else, and it's certainly not because the Pope was right about Kathy and I having only one soul between the two of us, but the fact remains and always will: I'm not quite myself, and never shall be.

I often wish I were a tree, all questing roots and innocence—but I had my chance, and blew it. But I've fifty years of progress ahead of me, with which to become something more.

I'm only a branch of a broken and blasted family tree—but I'm not withered yet. ○





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W.M. Shockley

When faced with the man
who destroyed everything that mattered,
Navram must decide whether to find
resolution in revenge or . . .

BY NON- HATRED ONLY

Illustration by Darryl Elliot



Navram smiled at the sincerity of the atheist, Ninotna. And at her persistence. What he did not yet understand was her deep-meaning. She had called him in his professional capacity six times in the space of eight cycles. As the spiritual counselor of the *Koipu Loru*, Navram had found nothing deficient in the woman, no apparent need for his services—but she had called on his services, anyway, seeking. In good conscience, he could turn away neither her nor her questions. And, he had to admit, he was curious as to her motive and her deep-meaning.

As she came seeking, she might find.

"Where," Ninotna asked for the third time in this call, "is the evidence of this quote Universal Entity?" Navram inwardly supplied the missing "unquote" for her.

"If it is part of the fabric of the measuring instruments," he countered with an argument different from the two he had tried previously, "how can instruments detect it?"

As she pondered the proposition, his finder chimed. "Yes?" he sub-voked.

"Capelo Dan Nanders wishes to speak with you in body," the in-ear whispered.

"In body?" Navram sub-voked in surprise, his voice breaking into audibility. Ninotna pretended to ignore the outburst. The utter shock of the request stirred his Jiminy into semi-awareness.

"In body" meant that he would have to leave his place of being, the spacious mountains and meadows, would have to negotiate the sickeningly narrow corridors of the *Koipu Loru*. Capelo Dan Nanders' office might well be small and cramped, box-like.

The in-ear whispered again, "At your convenience." A direct order! In all his cycles aboard the *Koipu Loru*, Navram had never received a direct order! Spiritual counselors were above such.

"You will have to excuse me," he said to Ninotna. "Capelo Dan Nanders wishes to speak with me in body."

Ninotna raised her eyebrows and nodded with a flicker of interest. "When you have finished with Capelo Dan Nanders, I would like to finish this discussion. Until that time, I shall abide in my tank."

"Of course," Navram replied with a shudder. How could anyone subject herself to a null tank, or any tank, for that matter? He watched in horrified fascination as she touched the control pad, and the tank's cover slid into place. *How can she breathe in there!* The light inside the tank extinguished. She would willingly spend her time in the null tank! Contemplating his argument, perhaps, or enjoying the state of non-being toward which so many strove. Non-being—*nirvana*—a very ancient spiritual ideal.

"Down," he said, and the image of the atheist in her tank pixilated to nothing.

He would force himself to go to the office of Capelo Dan Nanders, the head of personnel of the *Koipu Loru*, the highest-ranking bureaucrat he was likely ever to see.

What, Navram wondered as he left the spacious comfort of his place of being, had been found out about his past that would make them issue a direct order to see him in body?

To that he had no answer. He calmed himself. His Jiminy had returned to its slumber.

"Sit down, please," Capelo Dan Nanders said, glancing at the memory-aid behind his eyes before adding, "Navram."

Navram fell into the plush and waited. The psychology of the situation

might prove critical, and he knew that he was already unnerved by the bare corridors of the ship. Capelo Dan Nanders' office, at least, was commodious, though with none of the outdoor spaciousness of Navram's own. A design meant solely for business.

"This is rather an oddity," Capelo Dan Nanders said after an embarrassed pause. *Not a good sign.*

"What is?" Navram asked, to ease Capelo Dan Nanders' mental state and perhaps his own.

Capelo Dan Nanders wheeled from behind the desk and rolled smoothly to the plush. "We received this message. We are curious as to your input." Capelo Dan Nanders handed Navram a chit which Navram slid into his reader.

Sender: Machiavel@Erinyes(inflight)
 Received: from message02.messagecenter.uic by
 dub-img-1.universalinformationcenter(8.6.10/5.950515u)
 id VAA01200QX3
 From: <<SEEKERPVM@Erinyes
 Message-ID: <9531202215359_42343614@message02.message>
 To: CapeloDN@KoipuLoru(Inflight)
 Subject: Petruz Ttlat

Navram's training prevented him from betraying his panic at seeing the name "Petruz Ttlat" in the subject area. Outwardly, he maintained calm. He read on.

Capelo Dan Nanders,
 Do you have in your personnel a Petruz Ttlat of the planet
 Oritl? Or anyone from Oritl or Pumbac? Someone of great
 power seeks Petruz Ttlat.

Pilymax, Director, Personnel, GC

"Why *my* input?" Navram asked, glad that his state of mind had not summoned the Jiminy. Contending with it *and* Capelo Dan Nanders at the same time might have proved beyond Navram's abilities.

Looking behind his eyes, Capelo Dan Nanders said, "Our records indicate that you have an acquaintance with both Pumbac and Oritl." He, too, had been trained in the art of covering: Navram could not discern how much he knew.

"This is so," Navram answered. There could be no advantage in denying the factual. "Still I ask, why *my* input?"

"Pilymax is of great power," Capelo Dan Nanders said.

And any service you do for him will be amply repaid. "I spent three decacycles on Pumbac, and visited Oritl briefly in my youth. I do not know any Petruz Ttlat," Navram lied smoothly.

"Thank you for your answers," Capelo Dan Nanders said, wheeling about and dismissing Navram to face the nameless fear of the corridor. As he walked along it, Navram consoled himself that at least this time he was returning to the spaciousness of his place of being, not going away from it.

But for how long? Had they indeed found him out?

They could not be looking for Petruz Ttlat, not after all this time. The destruction of Oritl and his family—it made no sense that anyone would search

for him now. His flight from Pumbac after finishing his degree and changing his name—who would care about that? It was many centacycles in the past, buried and dead as were his parents and Oritl. And yet, the message that Capelo Dan Nanders had received mentioned Petruz Ttlat, a name that Navram had not used for many, many cycles, as well as both Oritl and Pumbac. These could not be coincidences.

Someone was closing in on him.

Navram hurried down the corridor as quickly as his girth would allow, holding his breath and keeping his eyes as narrow as possible. When he arrived at the access port, sweat riveted from his shoulder blades and brow. He palmed the port open and stepped inside. The relief he expected—the cool vista of mountain and meadow, scenes of Pumbac that he had learned to love in school—was not there. The walls loomed too close, pressed in on him: riveted, cold metal. Was this some trick of Capelo Dan Nanders, some device to unnerve Navram further?

He tried to summon the illusioner, but his voice stuck in his throat, and he could not even sub-voke. The Jiminy flickered into awareness, and, detecting only personal distress, immediately returned to its slumber. With his eyes clenched, Navram staggered to the comfo and sank into its plush softness. He buried his face against the material and breathed until he relaxed. “Restore my background.”

He counted slowly to ten before daring to open his eyes and peek out at the snow-covered mountains in summer.

“I’m sorry. I closed it when I came in.”

Navram whipped around in surprise. It took a moment for him to recognize Ninotna, the atheist woman, in body, despite the fact that she wore the same bland, brown outfit she always wore, an outfit that failed to cover her ample proportions but matched her hair color perfectly. She stepped from behind the comfo and stood in front of Navram with her hands behind her. Here! In body!

“You know the complaints about power shortages, so I thought, since you weren’t here . . .”

“How did you get in?”

She flinched—an action that informed Navram of the degree of anger in his voice. “The access port was open—I assumed you left it so always.” Not an improper assumption: a spiritual counselor should be always available. Navram did not remember whether he had closed the port. Probably, agitatedly facing the trip down the corridor, he had not.

“Why are you here?” One of Capelo Dan Nanders’ spies? Navram shuddered inwardly at his inability to control the anger in his voice, and at his failure: he had asked the direct question, the one he wanted answered.

She offered a toothy grin, which improved her dour physiognomy. “I finished in the null tank. But we never finished our discussion.” She brought her hands from behind her and offered Navram a card.

“What’s this?” he asked.

“Another background—I noticed that you always use the same one.” Navram liked the mountain background, but with Capelo Dan Nanders wondering about Pumbac, maybe a change was in order. He took the proffered card. Ninotna made unnecessary, prolonged contact with his fingers.

Navram controlled the shudder and the rush of memory: floating off Oritl, trying to breathe. The memories faded when he broke the contact. “Thank you.”

“It’s a mover, a bicycle trip through the ziggurats of ancient Sumer in Earth’s history.” Navram looked at the card. *Cycle Babylon*. Was there a clue to her

deep-meaning in that? "You can pedal to the various flesh-pots of ancient Earth. If you like that sort of thing." The last was a question more than a statement, but Navram did not respond. He did not trust his tenuous hold on his memories.

Could it be that she was harmless, that she wanted merely what she suggested, to discuss philosophy, perhaps to indulge in opposite-sex manipulations, as her actions suggested? Navram had not delved her character deeply enough to know. The former he could indulge—he enjoyed the theological banter—but the latter . . . never. The Jiminy might sleep through a *normal* encounter; but Navram knew that his own reactions during opposite-sex manipulations would rouse it.

"Have you an answer to my last question, then?" he asked, testing her.

"Your point has no validity," she answered calmly. "Were there a Fundamental Entity with which all things were imbued, one could not, as you suggest, determine such using instruments also so imbued. The same, however, applies to the *lack* of a Fundamental Entity. And this opposite is a telling argument for the lack."

Navram signaled for her to sit, and she took the small comfo near his own. Close enough, he noted, to display her interest in opposite-sex manipulations.

If she were a spy, she had done her homework. But why would Capelo Dan Nanders target Navram? The message, of course.

"Explain," he said.

"Since I *can* imagine the lack of a Fundamental Entity," she said, slapping her thighs with both palms, "one does not exist."

"A rather too-facile argument. Since I *can* imagine a Fundamental Entity, one *does* exist!" He mimicked her gesture before he could stop himself. She appeared not to notice.

"That is the facile argument—and not necessarily true."

"Explain," Navram said again.

She turned her body more toward Navram. Offering, he wondered fleetingly? Or threatening? *Why* would she do either? He had to get to her deep-meaning before he could determine anything about her. And yet, he had to determine so much about her before he could *get* to her deep-meaning! Ever the counselor's dilemma.

"I can imagine a twelve-legged, bird-headed reptile which does not, and cannot, by the laws of nature, exist," she said, and Navram nodded. "But I cannot *un*imagine your comfo. Or my own foot."

"But this is merely the argument of unfilled form."

She moved closer. "If the Fundamental Entity is immanent, as you claim—"

"I claim nothing," Navram interrupted. "I suggest, merely to—"

"As you suggest, then. If it is in every thing, as you *suggest*, then its presence would be obvious to—"

"To those who believe, it *is* obvious."

"And to those who do not believe? It would be impossible *not* to believe, were this definition true. Therefore, since I *do not* believe, since I do not see this obvious presence, the definition is false." *Quod erat demonstrandum*. Or so she thought. It was a variation of the unfilled form argument that Navram had not heard before. He would have to think about it to find the flaw. Her smile of self-satisfaction irritated Navram.

"Is there something that I, as your spiritual counselor, can help you with?"

Ninotna leaned forward and put her hand on Navram's knee, jolting him uncontrollably into . . .

Part of a router rolled by, turning slowly: the sharp blade, the forward rod, the safety chain stiff in relation to the router. It should be flapping, he thought. The safety chain attached to nothing; the last link broken open, open like a beseeching hand.

Petrusz was gasping now; the stale, sweat-laden air yielded little oxygen. In a moment he would pass out and die.

There was nothing to claw at. Nothing to hold onto anymore. Everything was gone.

Oritl had vanished beneath and behind him, then overtaken him as debris; he would survive it and the life he had known only by moments. Had he used those moments? Twelve centacycles were too few; but he didn't mind—his body refused to give in to death, not his mind, but he had nothing left to live for. His family and planet, all his friends, every single thing that he knew or owned—all were gone.

Like all the other debris, Petruz was being sucked toward the maw of the planetoid destroyer. If he lived long enough, he would be crushed to powder and the heavy metals extracted from his blood.

A rock, the apparent size and shape of a human head, tumbled past.

"No, but I'm sure there are things I can help you with," Ninotna spoke, breaking the spell of the memory. Gingerly, he picked Ninotna's hand from his knee. His *Jiminy* stirred and then subsided again to silence. Navram had not initiated anything that was the *Jiminy's* concern.

This offer of opposite-sex manipulation could *not* be Ninotna's true deep-meaning.

Regardless of what her true deep-meaning was, Navram knew that this meeting could not be allowed to lead to opposite-sex manipulation. Whatever Ninotna's secondary reasons, Navram could not let her actions lead him. Necessity and experience had trained him to do without.

"I am a *spiritual* counselor," he cautioned, as if that were sufficient reason of itself.

"And I am a physical woman," she countered as she walked to the access port. "Some physical needs require spiritual aid. Over these past sessions . . ." She sealed the port, locked it to the outside, to others who might have need of the counselor's service.

"We cannot yield to our—"

Suddenly, she was in his lap, kissing him, forcing him to forget himself and the control that he strove—sometimes painfully—to maintain. Invading his personal space.

"We can do nothing *but* yield!"

"It's probably nothing," his mother said as she sealed the emergency suit against his chest. Her breath smelled of liquor, a vice she railed against. She kissed him on the forehead—a thing she rarely did. *It* probably *was* something.

"I don't want to go in there," Petruz whined. The escape pod didn't look the least bit space-worthy.

"We all do things we don't want to do," she said and kissed him again. "Don't put the helmet on until you need to."

"Mom. . ."

She shepherded Petruz to the pod. "There's food and water for ten cycles." She pushed him inside. "Don't dog the hatch until . . ."

"Come on, Lily," Petruz's father called from the house. She looked at Petruz for an instant and then fled to the house.

"No!" Navram said, pushing Ninotna away from him. He could not endure the memories this woman's actions evoked. The same memories that any woman's affections evoked.

"You need a physical counselor," she said, undeterred, "more than I need a spiritual one." Her hands moved over him like trained serpents.

The Jiminy awoke. *What meaning is this?*

Personal, Navram answered, pleading. Mercifully, or not so mercifully, the Jiminy subsided.

Petrus never saw his mother or father launch the escape pod. Without warning it rumbled into flight, quickly lifting free of the planetoid. And, as soon as it was in space, the oxygen began to bleed off.

He knew then that he was doomed. He could do nothing and die within moments, or prolong the struggle by putting on the helmet. His body overrode the decision of his mind. Even a few more minutes of existence were preferable to an instant death.

Oritl disintegrated beneath him. He thought of taking off the helmet then, but his hands would not cooperate. He leaned his head against the bulkhead and closed his eyes. When he opened them again, the debris that had been passing him decelerated, and the escape pod raced toward the planetoid destroyer, through some sort of membrane and into the giant ship.

Without thinking and with a strength he did not possess, he kicked the small window from the escape pod and clawed the helmet from his head.

Air. Breathable air. Gasping it in.

"What is that?" Ninotna asked. "That gasping—it scares me."

Navram almost begged her to continue, but restrained himself before the Jiminy awakened again. He couldn't take any more of his past now. He almost asked her directly about her deep-meaning, but managed to refrain from that also. Out of control . . .

"Are all spiritual counselors so . . ." she said.

Navram finally caught his breath.

And a wisp as to her deep-meaning. *All* spiritual counselors, she had said. *All*. She had experience of more than one! Despite the fact that such a practice was condemned, he would delve into *her* official history.

"So *what?*" he asked.

Ninotna dropped her head and kissed Navram on the shoulder. He could not ask her to desist.

On the planetoid destroyer, Petruz huddled against the bulkhead of the escape pod. Breathing air where he should have found vacuum. Strange men in safety suits moved on platforms over him but he preferred not to watch them.

"There's a wog here, Commissioner Eglar," one of the safety-suited technicians said in a dialect barely understandable to Petruz.

A voice replied from an unseen source, "A wog? Is that possible?"

"It kicked out a window of a rescue pod."

"A wog? Kill it."

"No," a female voice interrupted. "I want to see it."

"Not another of your projects, Hendra! We have no time for wogs."

"Leave it until we see it," the female voice said.

Petrusz didn't know how much time had passed as he stared at the smooth metal of the bulkhead.

"It kicked out the safety plate, sir, but after that . . ." The technician pointed at Petruz. "It refuses to come out, refuses to talk, refuses to move."

"It's catatonic with terror," the female said, with pity in her voice.

"Space it," the male said.

"Yes, Commissioner Englar."

"No!" the woman said, falling to her knees in front of the pod.

"It's the humane thing to do."

"We have destroyed its world—probably its family. We should help it now.

What is your name?"

Despite himself, Petruz was drawn to the warm, maternal female.

"Petrusz," he answered, moving away from the wall. "Petrusz Ttlat." On the wall of the planetoid destroyer bay, he saw the giant insignia of the Greater Olker Protectorate. A smaller version decorated the male's tunic.

"What language is that?" Ninotna asked, her head pressed into Navram's chest. He could not respond while she touched him. He summoned all his strength and held her away from his body. "What?" she asked. "You don't like?"

"I am a spiritual counselor," he replied, failing to take courage from the statement.

"You were speaking in tongues. Petruz Ttlat. What does that mean?"

Navram shuddered at the thought that he had lost so much control. He stood and pointed toward the port. "You must leave. I have other matters to consider."

"But our discussion—"

She insinuated herself into Navram's arms.

The heavy-jowled and tonsured Sib ushered Petruz down the polished chrome hallway toward the visiting room. The various reflections were a permanent lesson as to the nature of illusion.

"Anilec Bors Englar is a very important man," the Sib said. "He is taking time out of his busy schedule to visit you."

"Does he seek the True Middle Course, or does he live still in the world of illusion?"

"Of his intentions, I know naught."

The Sib opened the door to the visitors' gallery and stepped inside ahead of Petruz.

"We prefer to be alone," the male, Anilec Bors Englar, said to the Sib. In the ten cycles since Petruz had seen him, he had grown weightier, greyer.

The Sib merely smiled and leaned against the wall near the door.

"Do you know who we are?" the female, Hendra, asked Petruz. He took his eyes from Anilec for the first time since he entered the room and looked at her.

"With you," he said to Hendra, "I have no concern."

"And I?" Anilec asked.

"You are the man who ordered the death of my parents and Oritl." Petruz sensed the Sib easing himself to a fully erect posture. "And at the first opportunity, I shall kill you."

"I know you must have strong feelings," Anilec said calmly.

"Have you no control of your weak emotions?" the Sib asked reprovingly.

"You can have no inkling of my desire for revenge in this," the boy inter-

rupted. He shifted his body's balance toward Anilec, and the Sib, without warning, tackled him from behind, slamming him to the ground.

"I shall hunt you down and pull the heart from your beating chest!" Petruz shouted.

"It might be better if you left," the Sib said.

Anilec took Hendra by the arm and pulled her from the room. "I'm certainly glad *I* came," he said.

The Sib began to lecture Petruz, while still holding him immobilized against the floor:

"While the captive king was being led through the streets of Benares he saw his son who had returned to visit his parents, and, careful not to betray the presence of his son, yet anxious to communicate to him his last advice, he cried: 'O Dighavu, my son! Be not far-sighted, be not near-sighted, for not by hatred is hatred appeased; hatred is appeased by non-hatred only.'"

Navram pressed open the port and pushed Ninotna through it, despite her protests, sealed it behind her, returned to his comfo, fell into it, and shivered. Unfulfillment tormented him, but not half so much as the memories.

2

"Vengeance is mine, saith the Lord," Navram intoned to the small audience of young men in for a group session on violence, quoting from one of the pre-Pumbac texts. Navram sat at the front of the lecture hall that backed his place of being, and the young men spread out in the chairs in front of him.

"And *mine*," Dithon, the group leader, said from his chair in the front of the group, closest to Navram. The group leader—a waste of intelligence and ardor.

"You equate yourself with the Lord?" Navram asked.

"Why not?" Dithon asked in reply, slouching farther into the chair. "This is the same archaic Lord you talk about on 'morality cycles'?"

"Fair enough," Navram conceded. Using old morality to disprove the efficacy of revenge to a group of hard-cores had been a mistake. "There is not room enough aboard the *Koipu Loru* for two unproductive antagonistic gangs." He expected the use of the word "gang" to have an effect, but it did not.

"Then get rid of Plwa and his girly friends."

The rest of the group laughed.

"Why should I not get rid of *you* and your friends. . . ?" Navram gestured toward the rest of the crowd.

Suddenly, Dithon loomed over Navram, all civility gone from his face. "Try it," he said.

Navram didn't react to the threat nor to the physical presence of Dithon. He spoke past the young man. "You have to give up your need for revenge—no one can take it away from you." Dithon backed away, unhappy at being ignored. "Not by hatred is hatred appeased; hatred is appeased by non-hatred only."

"That crap again?" Dithon asked.

"If I got rid of Plwa and his cohorts, you would find someone *else* to hate," Navram said calmly.

"What do you know about it?" Dithon asked as he slid back into his chair.

"Revenge goes nowhere, leads nowhere, consumes but does not produce, destroys but does not build." Navram *did* know about that: after taking his

degree, he had spent several centacycles pursuing his own vengeance, attempting to hunt down and kill Anilec Bors Eglar. Never once coming close. Wasting his time and his life. In the end, he'd examined his own deep-meaning dispassionately and realized that his need for vengeance was a hollow reed. Non-hatred only.

But the faces of the gang members were stony and unresponsive. He wasn't getting through to them. Navram stood and left the hall, reentered his place of being, closed and sealed the port behind him. The tall mountains of Pumbac soothed him for his failure. The first lesson he had learned in the seminary, and one he *always* disregarded: you cannot reason with emotion. And vengeance was as raw an emotion as one could find. Another cycle he would do better with the gangs. Until that cycle, they would remain under close watch.

Such a waste. The emptiness of revenge, the stupidity of revenge.

"We separated under such trying circumstances," Ninotna said from the plush.

Navram was prepared for her now. He had delved into her records and understood her deep-meaning. "I am surprised," he said, "that you have returned."

"You never answered my argument," she said, still playing out the diversion she had decided upon.

Very well. He would answer that. "You argue that your failure to recognize the immanence of the Universal Entity is a proof of its lack of existence?" he asked.

She nodded. "Succinct."

"The flaw in your argument," he said, feeling as if he were lecturing to the gang members again, "is external to the argument itself. The flaw is in your *perception*, not in the universe."

Her mouth dropped open. "Spiritual counselors are supposed to rise above *ad hominem* arguments."

"This is not an *ad hominem* argument."

"You attack me!"

Yes. His appreciation of her deep-meaning was correct. Like a psychic surgeon, he bore in. "I attack faulty perception." Oddly, he felt his Jiminy begin to stir into wakefulness. His actions were certainly within the realm of good therapy. So far.

"In a perfect system, there is no faulty perception."

"This is not a perfect system." She could not accept that, he knew. All authority comes from higher authority, ending in the *reductio ad absurdum* of perfection.

His argument did stop her for a long moment. "Perhaps we better go back to basic definitions."

He kept his smile of impending triumph to himself. She had performed the classic retreat-motif. He pretended to ponder. "You cannot seek revenge on me," he said, "for the actions of previous spiritual counselors."

Exercise greater gentility, the Jiminy warned.

Ninotna's exterior-meaning collapsed. "Revenge?" she sputtered. "I seek no . . . revenge?"

"In your records, I have discovered two separate opposite-sex manipulation therapies, both of which, I surmise, failed." The Jiminy attempted to restrain Navram, but he spooled without conscious thought, leaving the Jiminy with nothing to attach to. "The second, with Gerold of Pultark, catastrophically. Now if you wish to continue in—"

Desist, the Jiminy ordered and Navram went silent from the shock.

At the same moment, his finder chimed. He turned from Ninotna, gesturing for her to wait. "Yes?" he sub-voked.

The in-ear whispered, "Capelo Dan Nanders wishes to speak with you in body. At your convenience."

"In body?" Again!

This therapy has been noted, the Jiminy said. A reprimand from his Jiminy was the least of his problems now.

Whatever had been trying to close in on him could not have come to a resolution so soon. He turned back to Ninotna in time to see her dart away through the port. Classic: physical flight following verbal flight. She would not return; nor would she repeat this activity with another spiritual counselor. *Quod erat demonstrandum!* With her flight, the Jiminy returned to its preternatural slumber, awaiting the next moment when Navram went beyond the boundaries of therapeutic counseling.

Navram maintained calm despite the visceral reaction the background elicited. The office of Capelo Dan Nanders had been altered to resemble the grand square of the seminary at Pumbac, lined with perfectly shaped trees interspersed with topiary hedges. The seminary buildings were visible through the trees.

Capelo Dan Nanders sat on one of the curved wood benches that dotted the walkways. He waited for Navram to approach. Seeing no advantage in waiting, Navram walked to the bench and sat.

"An important visitor comes to see you, Navram." This time, Capelo Dan Nanders did not look behind his eyes for Navram's name.

"For me?" Navram asked, trying to keep the emotion from his voice. He wondered how this fact related to the questions about his past. An odd coincidence struck him: both times his past had come up, he had been in conference with Ninotna. Perhaps she *was* a spy for Capelo Dan Nanders.

"His life mate has died."

"And he has traveled to speak with me? There are grief counselors far better than I."

"He has requested you."

"Then I shall attempt to be of service."

"He is a very important person, Navram," Capelo Dan Nanders said with a feeble smile. *If you aid him, he can aid my career.*

"Might I know of him?"

"He has lost his life-mate."

"As you already said."

The *Koipu Loru* shuddered minutely. "That is his ship docking. He will be here presently."

"What is it you wish me to know?" Navram asked the direct question.

Capelo Dan Nanders rolled from the bench and circled to Navram's left side. "He is extremely powerful. He requested that we not tell you his name. He wanted to know about your Jiminy, and your course of study at the seminary." Capelo Dan Nanders fluttered his hands to take in the background.

"Which course of study?" Navram asked in return. He had never admitted to studying at Pumbac, never mentioned a degree.

"He was most interested in the fact that you received your position through merit testing and not because of any degree."

"I made no secret of my lack of degree."

Capelo Dan Nanders fidgeted his fingers in indecision. *He* did not know the question he wanted answered, if indeed there was such a question.

"I do not know," Capelo Dan Nanders finally confessed. Great rewards or disaster might come of this meeting.

Navram could say nothing to assuage Capelo Dan Nanders' fears. He knew less about the visiting dignitary than anyone. Only that he had recently lost his life-mate. A time of perennial crises. Life-changing reevaluations. Guilt for things done, guilt for things not done. Navram wanted to ask, "Why me?" again, but Capelo Dan Nanders clearly had no answer to that question.

They waited in the pleasant courtyard of the seminary.

The port irised and a bald old man stepped through. He wore the executive insignia of the Greater Olker Protectorate above his breast. Navram was taken aback by that—had not seen the insignia in years. The old man moved slowly, like one who had lost his purpose in life as well as his life-mate.

The man looked Navram over with something akin to interest. But as Navram did not recognize the man, the man did not recognize Navram. He shuffled forward and sat. Capelo Dan Nanders rolled away and out of his own office without being asked.

"My life-mate died," the man said, and paused, as if surprised by the sadness in his own voice. "I never expected to miss her."

"And you are?"

"Anilec Bors Eglar," he answered, almost apologetically. "Of the Greater Olker Partnership." He pointed to the insignia. In the twenty-six cycles since Petruz had last seen him, Anilec had grown far thinner and lost his hair. It could not be the same person. Not this gaunt, thin, pitiable being!

"And you sought me out for counseling?" Navram asked, masking his surprise.

"No," Anilec answered.

"Your grief has affected your judgment," Navram said.

Anilec made no answer to that observation. How could he tell if he were affected? The instruments of measurement imbued with the immanence of the Universal Entity. The same problem.

"There is more to this grief," Navram said, and Anilec nodded. "One can never live up to the perceived expectations of others."

"You did not study and receive your Jiminy on Pumbac?" Anilec asked.

"My degree is not the issue. Your failure to appease your life-mate—and now, the impossibility of ever doing so—these are the issues you must address."

"I am looking for a Petruz Tlat, not grief therapy," Anilec answered sternly.

"To assuage your grief?"

"I assisted him once; now I wish his forgiveness." Navram noted the strange juxtaposition, the outright lie. Assisted. But, of course, Anilec thought that he had aided Petruz in sending him to the seminary, educating the poor wog.

"Forgiveness is an attribute of the Universal Entity. You cannot expect—"

"I wish you would desist in bringing me into this discussion."

"As I see it, by bringing yourself to this ship, you have brought yourself to this discussion. I cannot help you if you persist in your denial. Your deep-meaning—"

"I am not here to indulge in your psychobabble." Anilec stood up angrily.

"You are not here *seeking* my help. Yet, as a spiritual counselor, I must offer what succor I am able. I can see your suffering, and I am able to alleviate it."

"No! This is not—how?"

"Through mental manipulation, I can alter your deep-meaning." Navram let that sink in before he went on. "I can convince you that you were not responsible for your life-mate's death."

"I was not responsible for Hendra's death!"

"Then the process should be very simple indeed."

The port irised, and Ninotna rushed into Capelo Dan Nanders' office. She waved a projectile weapon at Navram. Navram nearly laughed at the melodramatic entrance.

"I do not seek revenge!" Ninotna yelled at Navram. "Gerold of Pultark meant nothing to me!"

The weapon in her hand wavered. Navram stepped to her and took it from her. She looked into his eyes as their fingers touched.

No sudden flood of memory assailed him. "Await me in my place of being. We shall plumb your true deep-meaning when I have finished here."

"He meant nothing to me," Ninotna insisted.

One hand on her shoulder, Navram guided her toward the port. "We shall see that that is the case," he promised. Once she was gone, he turned to apologize to Anilec for the interruption, but Anilec was staring at the bench as if he had noticed nothing of Ninotna.

Navram looked at the weapon, then at Anilec. So simple. So direct. . . . But a spiritual counselor could not do such a thing. His Jiminy would destroy him utterly.

"No," Anilec said finally. "You are far from the mark. I can see this was a mistake. This is ended." Navram looked coolly into Anilec's eyes, seeking to determine if his stratagem had worked. Anilec did not like being so examined. "Leave. And tell the captain of the *Vanity Fair* that I am ready to return."

For the first time Navram showed a proper degree of servility to the executive of the Greater Olker Protectorate: he bowed before passing from the room.

Capelo Dan Nanders wheeled up to Navram. "How did it progress?"

Navram smiled. "He wants to go home. Call the captain of the other ship."

Back in his place of being he took a call from Ninotna. She sat in her null tank, looking as if theology were the farthest thing from her mind. "He meant nothing to me," she said dully.

"We can make that so," Navram offered. "Is there room in that tank for two?"

The vapid look fell from her face. Puzzlement, curiosity—the twinge of a smile. "Perhaps you had better come here and find out."

"With bells on," Navram said.

Ninotna closed the connection.

Navram closed the Pumbac background and stared at the smooth walls of his place of being. They held no terror now. The one who would soon be assailed by guilt and terror was Anilec Bors Eglar. In such a short time, Navram had been able to plant a deep-meaning psychic bomb, and without alerting his Jiminy. *I can convince you that you were not responsible for your life-mate's death.* The phrase would replay itself in *perpetuum* in Anilec Bors Eglar's mind until the mind convinced itself of its guilt.

And then, Anilec Bors Eglar would destroy himself.

And Petruz Tlat would be avenged.

And not by non-hatred alone. ○



Elisabeth Malartre

EVOLUTION NEVER SLEEPS

Elisabeth Malartre is a land use consultant and science writer with a doctorate in biology from UC Irvine. She heads up a large grassroots organization in the environmental community, and she teaches college biology. Ms. Malartre's regular columns in a weekly newspaper translate biological theory into everyday experience. The following hard biological SF story is her first tale for *Asimov's*.

Death came instantaneously to the deer. The dark blue semi had been laboring up the final quarter mile of the Sherwin grade, fighting the rapidly thinning air. Its headlights picked out roadside pine trees, their nearest branches blown away by the snowblowers of winters past. As it crested the summit the truck began to pick up speed, hitting its stride on the gradual downhill. It was a crisp summer night, sky sprinkled with stars, light traffic on route 395.

A few miles later, just beyond the offramp to Mammoth Lakes, a six point buck leaped off the shoulder of the road into the truck's grille. The lifeless body arced back to the right shoulder of the road, landing in a crumpled heap amidst the low shrubs. The truck swerved slightly, shifted gears and roared off toward Bridgeport. The stars glittered coldly over the slightly twitching body. Blood no longer pumped by the stilled heart trickled out of its open mouth. After a few minutes there was a soft stirring sound in the shrubs near the deer.

Fred Morales aimed his orange stakebed truck at the shoulder where the deer lay, happy to have finally found the carcass. He'd driven by the site twice without noticing it hidden there in the bushes. But the motorist who'd called it in to Caltrans had been right about the location after all. This was the last one before lunch. The sun reflected off the hood of the truck into his eyes and he was thirsty. What a job—collecting road kills. This one was pretty fresh, belly not too full of gas. It wouldn't be half bad, and there was a breeze to boot. Nevertheless, he stood carefully upwind as he tied the rope around the legs.

There was a sudden rustle and a flash of movement in the small grey-green shrubs next to the carcass as the winch started to move it toward the truck. Fred Morales leaped back onto the asphalt reflexively, before the front of his brain realized what he had seen.

"Squirrels," he said out loud. "Just squirrels." His heart pounded. Sometimes there were snakes under the bodies. Fred Morales didn't like snakes, didn't like to be surprised by them. He blew out a long breath to steady himself. "Just fuckin' squirrels." Nevertheless, he hurriedly finished winching the carcass onto the Caltrans truck with the other road kills and drove away without looking back.

"What do you do—sample 'em before you bring 'em in?" Ron Feister squatted down and poked at the carcass Fred had unloaded at his feet at the dump site.

"Huh?" Fred looked where the Fish & Game biologist pointed. Several places on the carcass had been nibbled, small red patches against the dusty brown of the pelt.

"See what was eating this deer?"

"Wasn't nothing on it—no birds . . ."

"Nope, no smell, too soon for buzzards. Not right for coyote either. They tear off pieces, drag 'em away to eat."

"Only thing I saw was squirrels."

"Squirrels? What did they look like?"

"Dunno . . . little, fast, you know, . . . with stripes."

"Chipmunks, you mean? Stripes on the head?"

"Guess so."

Feister stood up. "Huh. Where did you get this one?"

"On 395, near 203. Why, something funny?"

"Just a little unusual. Let me know if you get another one like this, okay?"

"Sure. You done? I want to dump the rest of these stinkers."

"Go for it. See you, Fred." Feister strode off toward his truck. *Chipmunks? I'll be damned.*

Janice Reidel stopped her jeep as she came to the dead snake lying on the grey asphalt. In her mind she spun a prayer wheel for the soul of the dead animal before alighting from the vehicle. She admired the smooth scaly carcass. The graceful sweep of its body was interrupted where the car tire had squashed it. A small pocket of pink guts squeezed out through the dark stripes on the scales. *Striped racer*, she decided, picking it up by its tail and gently tossing it into the roadside bushes. She always did this to road kills. Left on the asphalt, the kill would tempt scavengers like buzzards, ravens or coyotes onto the roadway, where they were apt to be hit themselves. How often had she seen ground squirrels scatter from a fallen colleague's body as the jeep approached? The tar pit syndrome. *I'll tell Jeff about this one when he calls tonight.* She headed back to her research quarters at the Sierra Nevada Aquatic Research Lab, SNARL emblazoned on her cap. She particularly enjoyed the scenery, rugged colorful mountains meeting the flat sage-covered plains of the Great Basin, here on the dry east side of the Sierra Nevada mountains in California.

Janice was one of a dozen first year graduate students doing summer internships at SNARL, hoping to find an interesting problem for a thesis. Despite the lab's name, most of them were working that summer on terrestrial problems, especially ground squirrel behavior.

She and some of the other interns spent four-hour shifts observing the animals in a large enclosure. It was organized tedium, like much of scientific research. She was learning, however, that it was the only way to attack the complexity of nature.

"A striped racer? No way." Jeff's voice came through faint crackles on the phone. "You're at 8000 feet—they don't get up that high."

"The snake didn't know that. I'm sure it was a racer—black with long pale yellow stripes on the sides—what else could it have been?"

"A flattened chipmunk?"

"No, really. It was a snake. You're the herp expert. I expect you to know everything about them."

Despite being a graduate student in math, Jeff was an avid snake hobbyist. It was one of the unexpected twists in his personality that set him apart from other men Janice had dated.

"Hm. How far from Highway 395 was it?"

"A few hundred yards, why?"

"You sometimes get unusual sightings near the interstate. People lose animals from their cars, or they dump 'em."

"Sounds far-fetched to me."

"So's that snake at that altitude."

"Look, I'll go get it tomorrow and preserve it for you."

"Yum. Snake preserves. My favorite."

"Ha ha. Listen, when are you coming up? It feels like forever since I've seen you."

"Miss me, eh?"

"Mmm, you bet."

"Woman, you're the one who left, not me."

"It's just a summer fellowship. I didn't emigrate. Look, you could write those old equations just as easily up here in the gorgeous mountains as in sweaty old Berkeley. There's even a spare cubicle in the lab building until the end of July. And you could explore for snakes while you're up here."

"Hm. Tempt me some more. What are the sleeping arrangements?"

She laughed. "The natives are still *very* friendly."

The next morning, before her four-hour shift watching the squirrel enclosure, Janice went back to look for the snake. She leaped from the jeep, strode over to the bushes with her usual no-nonsense gait and was surprised to find only a few scraps of bone. Surprised, she pulled back. *Wow, that was fast. Someone was hungry.* She started searching carefully, hoping there was still a piece with some skin on it, enough for Jeff to look at. *There.* About three inches of snake tail lay just beyond her reach.

As she stepped around the low bushes, there was a flurry of activity as a chipmunk darted away from her, scattering the pumice gravel. *So that's who's been eating my snake. Hungry little bugger.* There was a flash of movement to her right, and she became aware of several more chipmunks among the shrubs. They were all watching her. *Sorry, guys, but I need this bit.* She squatted down and reached for the piece of snake.

Before she could touch it, a chipmunk dashed forward, causing her to jerk her hand back. She expected that the movement would send it running in the opposite direction, but instead, the small animal crouched down and started making its alarm cry: shrill repetitive bursts of sound, tail jerking furiously. *It's almost as if he's defending it.*

She felt suddenly vulnerable, in shorts and sleeveless top, without even her trusty leather gloves. Rodent bites were painful and took a long time to heal. An encounter with a lab rat had left a permanent scar on her third finger. This was certainly atypical behavior. Maybe the animal was rabid.

Off to her right another chipmunk started to chirp, then another. The stereo effect was unnerving. There seemed to be about a dozen chipmunks scattered throughout the shrubs in front of her.

She looked again at the closest animal. It showed no sign of wanting to leave, back arched slightly, head high, tail jerking spasmodically with each

shrill bark. She felt the sun hot on her scalp. Up this high, with little protective atmosphere above, she burned easily. Her hat was in the jeep, of course. Another minute passed. Stalemate. If she went for her hat she'd lose the snake. Her knees began to ache and she knew she'd be lightheaded when she did finally stand. The piece was probably too short to be diagnostic anyway. "Oh, all right, keep your damn snake if it's that important."

She stood up, stars swimming in her vision. *Damn low blood pressure.* The closest chipmunk lunged forward, grabbed the piece of snake with its teeth and ran off. As it reached the others they spun around, and followed it into the shrubs.

Bizarre. They seemed to be working together, like a pack.

Professor Daniel Branton scowled at her as he meticulously picked a tiny crumb of sandwich from his forearm. "Chipmunks don't exhibit coordinated behavior. They're basically loners, scavengers."

"But it was so definite, I know they were working together."

"There's never been anything in the literature to indicate that chipmunks behave in groups."

"Well, maybe this is something new."

"What you saw was just normal duetting behavior. One animal barks, then the others join in. That's all."

"What about the animal that wouldn't let me have the piece of snake? That's not normal behavior."

He snorted. "You students need to be more observant and less imaginative. An animal of that size is not going to stand up to a human."

"But that's the point, it did. And furthermore, it wasn't alone . . ."

"I doubt that." Branton crunched the empty sandwich wrapping into a ball and picked up his empty drink can.

Janice swallowed her annoyance, felt her face flush. Branton was known as a prissy nitpicker. She should've known he wouldn't believe something out of the ordinary from a mere graduate student. Unfortunately, he was the ranking professor at the lab, and would be on her advisory committee if she picked a thesis problem in animal behavior. She could not afford to alienate him, but this was too intriguing to just let go.

"But if they are cooperating it would certainly be an interesting problem."

He looked at her sharply. "Open-ended research like that is not for graduate school. You need to pick a problem with a definite answer, or you'll never finish. The university can't afford to keep on supporting doctoral candidates indefinitely, you know."

"But if I wanted to test the hypothesis that they were cooperating, what would you suggest. . . ?" *Can't hurt to ask his advice.*

He stood up to return to the research center. "That's pretty obvious. Duplicate the conditions, observe carefully, and record the data meticulously, the way I've taught you for enclosure research. But it's a waste of time. Stick to your enclosure observations. Ground squirrels are inherently more interesting."

"I'll do it on my own time. And thanks for the advice." *A good graduate student must always be submissive.*

Branton strode off, waving his hand vaguely behind him in response.

Amy Chang, another first-year graduate student, grimaced at his retreating back. "Ground squirrels are inherently more interesting," she muttered in a low voice that aped his didactic tone. "What an asshole."

Janice suppressed a smile. She also didn't share Branton's enthusiasm for the endless mate-substitution experiments he was conducting in the enclosure. Few of the graduate students did. Still, that was her summer grant money.

Amy brushed black bangs out of her eyes. "For what it's worth, I believe you. The chipmunks have always seemed to be brighter than the ground squirrels anyway."

As if on cue, a chipmunk began its alarm cry from the tree a few yards away. They were sitting outside, in a small clump of pines close to the lab buildings that functioned as a rustic picnic area. Janice studied the ground next to the log she was sitting on: large black ants were busily combing the fallen pine needles. "Nature's garbage collectors," she said. "Without ants, we'd be knee deep in dead moths."

"They're great scavengers, all right," agreed Amy, "and what a system they have: a lot of unremarkable individual units that together make an unstoppable army. And they find everything that's edible. There's no hiding from them."

"You know, in a way, those ants make me think of the chipmunks. If they were organized like ants, how would we live with them?"

"What do you mean?"

"Think about it—you know what a nuisance ants are at a picnic. What if an organized group of chipmunks descended on a table full of food?"

Amy paused. "Hm. I'll bet they could carry off most of the stuff without much trouble."

"Right. And do you know what would happen if someone tried to stop 'em?"

"Dunno, what?"

"They'd be picking teeth out of their hand. Rodents are pretty aggressive. Despite what Branton said, they don't hesitate to attack an animal much larger than themselves. Look at this." She showed Amy the scar on her finger—two white semicircles left by the sharp incisors of a harmless-looking white lab rat. She remembered her surprise at the rat's unprovoked attack.

"I remember reading that rats in slums bite sleeping babies. Even kill some of them," said Amy.

"Yeah, and during plague years in Europe the rats crunched the bones of the dead bodies."

"Ugggh. But those were rats."

"Chipmunks are just rats with stripes, bona fide rodents with all that implies."

"Yes, not like my birds. Even sea gulls are better mannered than rats."

"Oh yeah? Remember that Hitchcock movie about a lot of birds attacking the people in a little town?"

"Oh, that one. I read somewhere how they trained all those birds to peck people. But it wasn't real. There wasn't any reason for them to act like that all of a sudden."

Janice let out a deep breath she didn't know she'd been holding. "I always thought it was a frightening movie, to have benign creatures suddenly become threatening. And what I saw today was real. Those chippies really weren't very friendly. I'd hate to go into the woods alone if large groups of any kind of rodent were out looking for trouble."

"The Attack of the Killer Chipmunks, 'eh?"

"It sounds silly, but that's because we've been conditioned by Disney cartoons to think of them as lovable, harmless little creatures."

"Well, you have to admit they're pretty cute."

"Only if you romanticize them. Take those damned ground squirrels, for example. If the females get too upset at living conditions, or if they're caged with a strange male, they kill their young. Bite off their heads."

Amy shuddered. "You're really serious about this rodent menace, aren't you?"

The chipmunk continued to call from the tree. Janice lobbed a pine cone at it halfheartedly.

"Well, before I get too carried away I need to prove what I saw. Branton said to duplicate the conditions."

"So throw them some more snakes."

"Huh? Oh, you mean road kills. Yeah, there must be plenty. Maybe when Jeff comes up he can find some."

Late that afternoon, Janice was working in her cubicle in the lab when she heard a familiar male voice outside her open door. "Janny babe? You in there?"

She leaped up from her chair and flung herself at the tall, lean, and slightly disheveled figure in the doorway. "Jeff! Wow, you got here fast! And it's so good to see you." They were instantly in a mad whirling embrace around her cubicle.

Amy chose that moment to knock on the doorframe. "Hey, cool down, you two. I can hear you giggling all the way down the hall."

Jeff slowly put Janice down, sliding her body down his while staring intently at her. Finally her feet were on the floor, and she disengaged from him slightly. Still hugging him, she turned to Amy and introduced them. "Jeff, meet Amy, the Pellet Researcher for this year."

Jeff looked blank. "Pleased, I'm sure. What are pellets?"

Amy sneezed. "Barf balls. Birds that prey on small furry things cough up balls of fur and bones. I separate out the bones and identify them. We even find snake scales in 'em."

"Oh yeah, sure. I just couldn't connect for a moment." He collected himself. "It's the altitude, you know. My brains are at eight thousand feet. Besides, I was distracted."

Amy grinned. "Okay, I get the hint. But when you're ready, I've found something about the chipmunks you should know."

Despite herself, Janice was intrigued. "Tell me quick, then we can talk about it later." She hugged Jeff. "Much later."

"Well, basically, this summer's big owl pellets have quite a few chipmunks in 'em."

Janice looked puzzled. "What's that mean?"

"There shouldn't be chipmunks in these pellets—they're diurnal animals. They're not active when the owls are out, so how can they be getting caught?"

"Something's funny."

"Not only that, but I checked the pellet results from past years—up until two years ago, only voles and mice, nice nocturnal animals, what you'd expect. No chipmunks."

"Well, either these are early owls, or the chipmunks stay up late."

"Exactly. And there are no reports of funny owls. So the chipmunks are changing their behavior."

Over the next week Janice and Jeff retrieved a variety of squashed and bloody carcasses from the paved roads between Mammoth Lakes and SNARL and transported them to the site of her encounter with the chipmunks, just north of the intersection of Highway 203 and Highway 395, on an old asphalt spur road within sight of the interstate. Her jeep began to smell like ripe flesh, and her gloves acquired unpleasant stains.

Thursday morning she dumped yet another squashed rabbit on the edge of the pavement. Then she retired to her jeep on the side of the road and waited, binoculars and notebook at the ready, for the chipmunks to respond in the now-familiar pattern. Jeff pulled out a book and stretched out in the back seat.

Within minutes there was a stirring in the low shrubs nearest the carcass. Two chipmunks she called the Lookouts emerged from the vegetation and approached the rabbit. They circled it cautiously, sniffing the air repeatedly and making low chittering noises. At some unseen signal they flashed quickly back into the shrubs. Next came the noise of high-pitched barking: not the continuous alarm signal common to chipmunks and squirrels, these were short bursts of sound repeated for about ten minutes. This was followed by the appearance of at least a dozen chipmunks around the carcass. Finally came the feeding frenzy, enthusiastic yet curiously disciplined. Some animals tore out chunks and disappeared into the shrubs, to be replaced by others. In about an hour the rabbit was reduced to fascia-covered bones.

"Let's see Disney make a cartoon out of this. They could call it 'Bambi and Thumper Share a Roadkill,'" she remarked.

"Reminds me of stories about piranhas."

"Land piranhas? But they take living prey. These are more like furry vultures. At least so far."

"Oh? Care to explain?" He put his book down.

"Okay. I think they're cooperating because that way they can compete with bigger scavengers like ravens and coyotes. These carcasses disappear so fast the other creatures never have a chance to find them."

"Why do chipmunks eat meat anyway? They're supposed to eat nuts and berries and stuff like that. They're not predators."

Janice sighed. "Deer, squirrels, mice, rabbits and other cute, furry critters are classified as plant eaters, herbivores. We've adopted the view fostered by cartoons and kids' books, that they only eat plant food. But actually, very few animals turn down the chance to eat meat even if they don't hunt."

"Why?"

"Well, for starters, meat is easier to digest than plant food. No tough fibers. Carnivores have much shorter, simpler digestive systems than herbivores. So it's a good source of energy and calories."

"So why haven't chipmunks everywhere realized this before?"

"Good question, especially from a mathematician. It has to do with the evolutionary pressure. It's pretty fierce up here."

Jeff looked blank.

"Look, this is a food-scarce environment. Dry all year and cold in the winter to boot. The pine forest where the chipmunks live is not very diverse—not a lot of different organisms, but many individuals of the few species that do thrive here. It's the classic pattern for a difficult environment."

"But there are twenty square miles of pine forest filled with pine nuts—how tough can that be for a chipmunk?"

Janice considered for a moment, pawed through some papers in the front seat. She tossed Jeff a greyish object.

"Look at this deer leg I found in the forest."

He turned the bone over and noticed that one end was jagged.

"Let's see . . . it has marks on it—looks like tooth marks. Okay, it's been gnawed."

"Yup. Nothing lasts long on the forest floor. When an animal dies its body is quickly scavenged by the living. Even the bones are gnawed for their calcium. So anything the chipmunks can do to improve the food supply is going to be a big advantage for their survival."

"Okay. I'm convinced. But I'm just a humble mathematician. How're you going to prove your idea to the Brantons of the world?"

"Well, I don't know yet, but I think I can predict what the next step is. It's the same kind of thing that happened to our own ancestors on the African savanna. We were originally scavengers, cleaning up after the big predators like lions."

"So much for the Great Hunter idea, eh?"

"It's not a very likely scenario for puny creatures like us without claws or fangs, or at that time, much technology. The point is, a coordinated band can scare or harass a large predator away from its kill."

"But our ancestors did start to hunt."

"They did at some point. Using the same pack behavior they developed for scavenging, they found they could take large living game. And the communication skills they needed for hunting led to human language."

"So the next step for the chipmunks is to talk?"

"No, silly." She bopped him lightly on the head with her clipboard. "Wolves and wild dogs don't talk, but they hunt in packs. So, I predict that the chipmunks are going to hunt living prey."

Janice swam up out of sleep with the comforting sensation of another body next to hers. Jeff was snuggled up against her, breathing deeply and surprisingly quietly, one arm draped over her breasts. She ran her hands lightly over his exposed shoulders and arms. He stirred, grunted contentedly and opened his eyes. Then inhaled deeply and coughed. "Can't get used to the air up here—how can you breathe something you can't even see?"

"Smoghead. Look out there. It's a gorgeous day. Let me show you some scenery."

"What are we doing about breakfast?"

"There's a good place in Mammoth, then we can explore the forest behind the town."

As they drove out of the parking lot they passed Amy carrying a paper sack. She waved them down. "Hey, how'd you like to come out hooting with me tonight? I want to nail down if Owl #6 is a Great Grey. I found some pretty interesting-looking feathers in its territory."

"Is that what you've got in the bag?" asked Janice.

She frowned. "No, unfortunately. These are the remains of Old Reliable, my owl from Doe Ridge. I found it lying under the tree where it leaves its pellets."

"How'd it die?"

"Can't tell, actually. The body was pretty well munched already—not much but feathers and a few bones left. Things sure don't last long on the forest floor around here. I checked the site just two days ago."

Janice turned to Jeff. "You have time to go hooting tonight? I'll bet you've never done it."

He suppressed a smile. "Sure, if it's a hoot, I'm interested."

They all groaned.

"Okay, we're in."

"Great. I'll bring the hot chocolate. Meet here around eight tonight and we'll head off."

Blondie's Kitchen was pleasantly full of T-shirted vacationers, but there was one unoccupied booth left. The smell of coffee permeated the air, sharpening Janice's hunger.

As they perused the menus, she became aware of an animated conversation behind her back in the adjoining booth.

"That's not English—what is it?" asked Jeff.

Janice listened for a few seconds. "French, but with a southern accent, not Parisian."

He stared at her. "Wow, I'm impressed. How did you do that?"

She looked up from the menu and smiled at him. Her frequent trips to Europe as a child had given her fluency in French and Italian and the ability to distinguish regional accents.

"Southern accents are the same all over. People speak more slowly and hang onto the ends of their words. In Australia their south is the north, but the same thing happens."

As she tuned in again on the conversation behind her, something about it caught her attention. She motioned Jeff to silence.

"Wait a minute, I want to hear this. . . ." She turned her head to hear better and concentrated.

A man was talking, a long barrage spiked with exasperation and cries of disbelief from others. Janice listened for a few minutes. Finally there was loud laughter from the table behind.

She turned back to Jeff. "He was complaining about squirrels stealing food. A bunch of squirrels, *tout un tas*, he said. They apparently worked over his pack and he couldn't get them to stop. He was pretty upset about it, especially when his friends didn't take him seriously. He kept insisting that they were doing something unusual."

"Where did it happen?"

"Unfortunately, I missed that part, so it could have just been a campground. But there are campgrounds in France, so he should be used to pesky squirrels."

"These were squirrels, or chipmunks?"

"He called them squirrels. But I doubt he'd know the correct name for chipmunks anyway. Most people don't distinguish between the local rodents. They're all just generic squirrels. No, what's funny is that I was discussing this kind of incident with Amy just yesterday, and now it's happened."

"Maybe you have chipmunks on the brain. Here comes the waitress. Ready to order?"

After breakfast they headed out of town on the winding asphalt ribbon of the scenic loop. There were few other cars, in contrast to the busy interstate. The brilliant blue sky illuminated steep-sided hillsides thickly grown with tall stately fir trees.

Janice looked around as she drove. Not a menacing forest at all, in fact a rather straightforward one, she thought. Still, she couldn't help wondering if the placidity hid the secret rustlings of new activity. As if answering her thought, a ground squirrel erupted out of a roadside shrub and dashed across the road in front of them. She slowed the jeep, but it was moving very fast and was in no danger of being hit.

"What was that—a greased chipmunk?" asked Jeff.

"I think it was a golden mantled ground squirrel. The head was orange, and it was a bit bigger."

"How could you tell? All I got was a glimpse."

"It *was* moving pretty fast. Last time I saw a squirrel run like that, there was a weasel behind it."

"Maybe the chipmunk mafia was after it." He grinned.

"Don't you start now."

She turned off onto a gravel forest service road and parked the jeep at the base of a hill. As they walked around the rocky apron of the hill they came to a wooden nest box mounted on a pine tree, one of many scattered throughout the forest. Earlier in the summer she and Amy had amused themselves by guessing what birds were using the boxes, gleaning information from an occasional dropped feather. But as they approached, Janice saw something was wrong. Nest material protruded from the entrance hole, and many feathers were strewn around the forest floor beneath it.

"Something must've raided this box," she said. "Look at the entrance hole—it's chewed all around."

"So what animal could do this? Don't they build these boxes so only birds can get in?"

"I thought so. I've never seen one messed up like this, and it must be a rare event or the Forest Service wouldn't bother putting boxes up."

"Seems to me it'd be easy for squirrels or chipmunks to get into one of these anytime they wanted."

Janice considered for a moment. "I always thought so too, and maybe that's the answer. They don't usually want to."

"But now they do? Your chipmunks again?"

She stared at him. "Well, maybe I'm just jumping to conclusions, but if they were starting to hunt, these would be the easiest prey. Here in the boxes, and in all the dead trees where the other birds nest." She shivered despite the warmth of the late morning sun.

Amy killed the headlights on the pickup truck as they reached the territory of Owl #6. The site was a clump of Jeffrey pines on a low rocky bluff overlooking a pumice flat and the interstate, about a quarter mile north of Highway 203.

"So what's special about this owl?" asked Jeff.

"Well, basically, locating a Great Grey would burnish my credentials as a field biologist. It'd be a real find on this side of the mountains. They're pretty rare even in lush forests on the west side. I've put in a lot of hours trying to find this puppy. Maybe tonight's the night."

They unloaded the tape recorder, and Jeff slung it around his neck. It was a big bulky job, an ancient model from the lab.

"So you're not actually going to hoot?" asked Janice.

"Nah, my hoots have a Chinese accent, not 'furry' enough. Owls hate 'em. This way is better."

A flicker of movement caught Janice's eye. A darker shape was gliding noiselessly into the green-black branches of the pines on the edge of the bluff. She touched Amy on the shoulder and pointed.

"There it is. What luck!" Amy whispered.

They walked carefully over the fallen branches and pine cones to a small clearing close to where they had seen the owl.

Jeff set the recorder on the ground and Amy flicked it on. The throaty hoots of a Great Grey floated into the darkness. She repeated the sequence several times, but there was no answering call.

"Well, maybe it's just a Great Horned Owl after all."

She fumbled in the backpack for a small flashlight. "I've got horned owl hoots further along on the tape."

"Here, I've got one," said Janice. As she flicked the light on she heard soft rustling noises among the dry needles of the forest floor. Holding the light at eye level, she scanned around her. A few spider eyes gleamed back at her, and several sets of larger eyes. One set was close enough to discern the striped body behind the eyes. "Look, a chipmunk! Well, that proves they're out at night all right."

"And that's why my owls are catching them."

"Yeah, but what are they doing out?" asked Janice.

"What difference does it make? Snakes come out on summer nights, why not chipmunks?" asked Jeff.

"The snakes only do it because their body temperature is still warm enough to hunt. It's basic physiology for a cold-blooded animal. And it's not something new," she explained.

"Right," put in Amy. "And remember, just a few years ago the owls weren't catching chipmunks."

"So they probably weren't out at night."

"The only other possible explanation was that a new species of owl with slightly different hours had moved in," sighed Amy. "I was counting on a Great Grey, but they almost always answer the tape if they hear it."

The tape recorder was still running and Great Horned owl hoots filled the air. In the recorded silence after the calls they heard again the soft rustling noises. The tape called again, but the owl stayed silent. The rustling sounds increased.

"No wonder those chipmunks get caught—they make a racket."

"I sure wish this one would hoot. Say, you guys, would you mind moving away from the tree? Take a walk or something? Maybe there are too many of us here."

Janice and Jeff moved away from the clearing, walking slowly back toward the truck, then past it down the dirt road and into the forest. A few minutes later, as they rounded the first bend, Janice suddenly stopped and put her hand on Jeff's arm. "Listen. The owl."

The sound of the live owl's answer floated lightly over the forest.

"It's in a higher pitch, but the song's the same," whispered Jeff.

"That's what it usually sounds like. Poor Amy, it's unmistakably a Great Horned Owl."

"Hoping to nail chipmunks, probably," said Jeff.

"Yeah. The Great Horned owls are top predators. Pretty ferocious hunters, the terror of the night to anything smaller. We enjoy the sound of the hooting, because they don't threaten us." She paused. "I wonder if the mice shiver when they hear it."

"Like we do at the scream of a cougar?"

"Or the snarl of a grizzly? Actually, besides the odd tiger attack in India, there are precious few large predators left to threaten humans. We've erased them, starting back about ten thousand years when we—"

They heard Amy curse and stamp her feet.

"What's she doing over there?" wondered Jeff. "I thought the idea was for us to be quiet."

"I don't know. Shhh."

The owl continued to call from the tree every few seconds in response to the tape. As they stood quietly in the darkness Janice slowly became aware of soft rustling sounds around them. She fumbled for her flashlight, but it slipped through her hands onto the duff. She reached down to pick it up, groping around with her hand.

From the darkness something furry leaped at her hand. Warm fur, sharp teeth. "Ow!" she yelled, and shook her attacker free while straightening up.

"What's the matter?"

Janice was nearly speechless with surprise. "It . . . bit me! It leaped on me and bit me!"

"What? Where?" Jeff was instantly all motion and concern.

"On my hand. Goddamn chipmunk bit me. It's absolutely incredible!"

Suddenly from the clearing they heard the sound of running feet, a crash, and Amy yelling.

"What's she saying?" asked Jeff.

"I'm not sure. It sounds like 'stop it.' We'd better get over there."

They retrieved the flashlight and half-ran back to the clearing, stumbling over pine cones and branches. The tape recorder was tipped over on its side.

"Amy? Where are you? What's happening?" yelled Janice.

A rustling commotion in the branches of a tree above them. She looked up. Scrambling noises on the trunk traced the descent of many small bodies.

"Lord, the tree must be full of them!"

From the direction of the owl tree came a strangled screech and sounds of thrashing. Amy was yelling "Stop it, stop it, stop it, you damn things!" In the distance they could see her flashlight playing in the branches of the tree, its stabs raking across shrouded vaults.

"The owl! They're attacking the owl," yelled Janice. They ran to join Amy. Suddenly she was filled with loathing for the swarming rodents.

They found Amy two branches up in the tree, flashlight clenched in her teeth, yelling wordlessly.

There was more commotion in the branches, sharp squeals and thrashings.

Then above her Janice heard something falling, thumping into branches and crashing to the ground on the far side of the tree. She guessed it was the owl, but it sounded too heavy. She had a sudden vision of a cadre of chipmunks attacking the owl as it sat helpless on the branch, the brief death struggle, the failed takeoff becoming a plunge taking both attackers and prey to their doom.

Above them, Amy yelled in pain and stopped climbing. She yelled again and her flashlight fell to the ground.

"Ahhh! I'm being attacked!"

A hastening, liquid sound—made up, Janice realized, of many excited squeals.

"They're swarming all over." Amy shrieked. "I'm coming down."

With a cry she fell from the tree, landing in a crumpled heap. They rushed over to her.

Jeff helped her up.

"Amy . . ." began Janice.

"Oh, my ankle. I must've landed wrong." Her terrified face stared up at them in the flashlight gleam. "D-damn things are all over the tree! One of them b-bit me on the shoulder. They're like in a frenzy or something."

The branches above them were alive with swift scurrying noises.

"Let's get out of here," said Janice. "This is bad news. Maybe these things are sick."

"No," said Jeff. "It's what you said. They've taken the next step. They're hunting."

"But why the owl?"

"It's payback time. Remember the mice shivering at the sound of the hooting?"

She stared at him. "I was only half serious about the hunting. But they're so intense."

"Wait, the owl . . . where is it?" gasped Amy. "Maybe it's still alive."

"Not a chance. Let's just get out of here," urged Janice.

"You two go for the truck, I'll look for the owl," said Jeff.

The two women struggled toward the truck, Amy leaning heavily on Janice. Several times they heard chipmunks moving in the duff around them.

Jeff caught up with them. He was carrying the tape recorder. "It's dead all right. In a heap with some mangled chipmunks. And a mess of live ones that wouldn't let me near it."

They scrambled into the truck.

"I'll never feel the same about the forest again," shuddered Amy.

"It'll never be the same again," said Janice. Her thoughts raced.

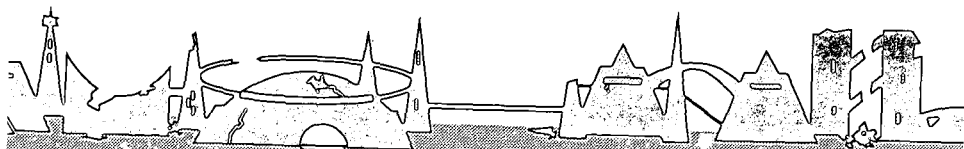
There's a new predator loose in the wilds. We erased the big ones, hunted them down and thought we were safe. But evolution never sleeps. There was a niche to be filled, and it was filled from below, from the small creatures. It's happened before. When the dinosaurs died, the mammals that inherited the earth were descended from small nocturnal animals. Some people speculated that they may even have hastened the demise of the dinosaurs by eating their eggs. Maybe this is the beginning of the end of our brief hominid dominance.

She looked back as Jeff started the engine. The dark forest was alive with tiny glaring dots. In the glow of the tail lights, a ring of bright eyes glittered.

*The wood is full of shining eyes,
The wood is full of creeping feet,
The wood is full of tiny cries.
You must not go to the wood at night.*

—Henry Treece (1912-1956) ○

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Secrets of the Alien Reliquary

At first, of course, we grossly failed to recognize it, assuming the displays in their camouflaged temple relics of their espionage, dandruff from our anxious ids, the gleanings of a xenophilic curator with eclectic tastes, or no taste to speak of, an otherworldly magpie of the inconsequential and splendor of our species, a devourer of it all. Later we came to understand that we had stumbled not into a conventional museum,

but a kind of backdoor bawdyhouse repository of fetishistic, and thus shameful, alien delights not one arising from their own ferrogramineous biology but rather from a low-percentile, albeit planetwide, deviant preoccupation, generally discreetly suppressed, with anything and everything human. Stunned doesn't begin to describe our mind set passing among the temple's dioramas and interactive icons, which ranged from the size

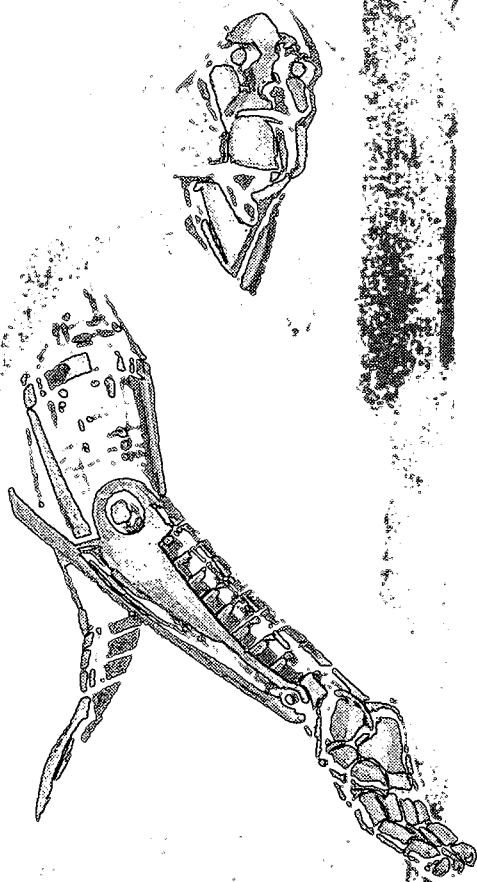
of fingernails—indeed, one was a fingernail—to that of an immense holographic projection of a membrane-enveloped gall bladder, conspicuously diseased, which revolved aloft like a lopsided glitter ball in a clandestine discotheque.

Who would have imagined that a silhouette of Abe Vigoda, a pair of gutta-percha galoshes, the scent of halitosis disseminated via an atomizer, a pictorial chiropractic text, a large petri dish of toenail fungus, a video of a Tourette

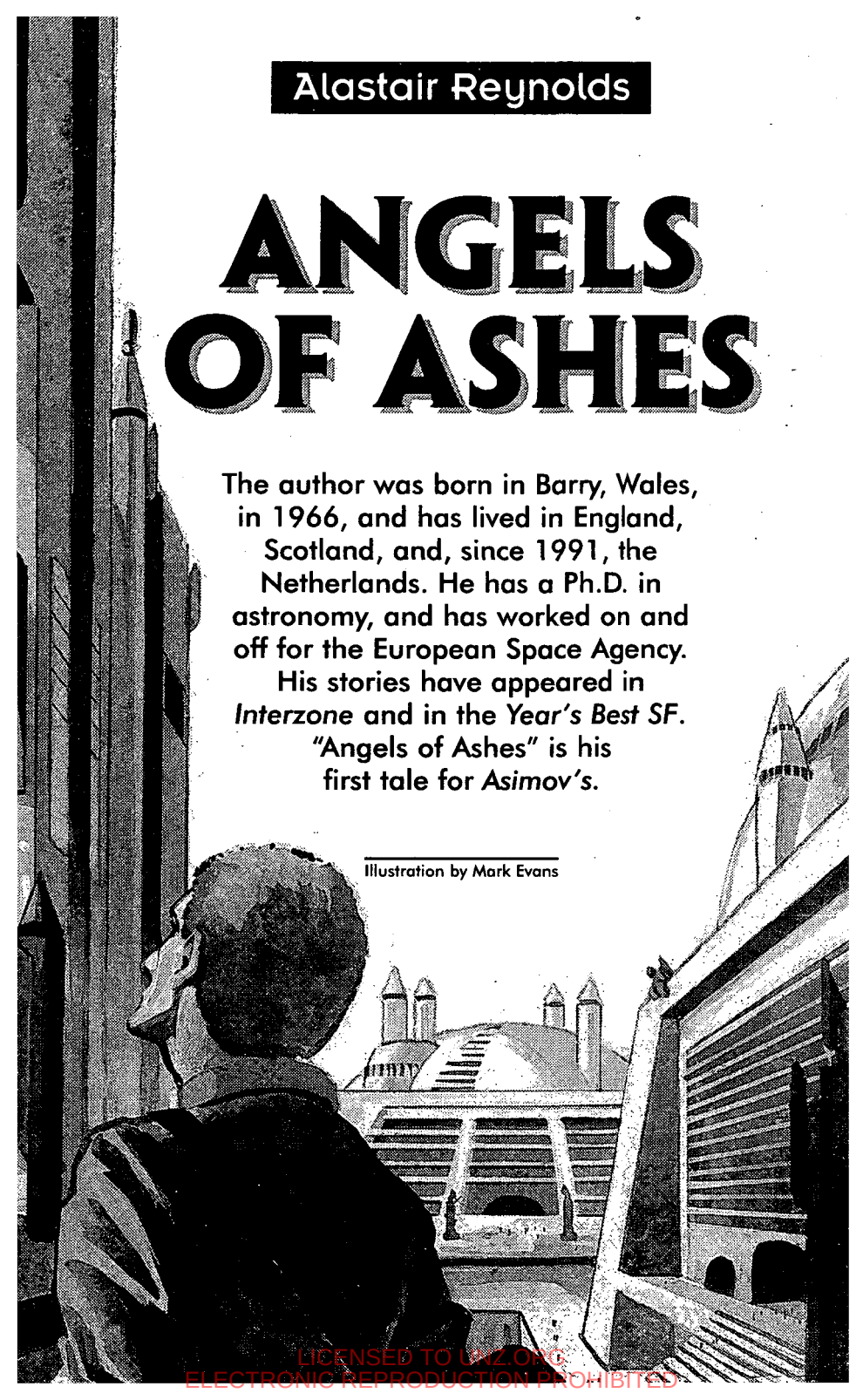
Syndrome sufferer, or a quaint electronic coupon for a box of hemorrhoid suppositories would have so reliably tweaked the private orgasmic impulses of some of these creatures that they would showcase their favorite libidinous stimuli in a concealed exhibition hall within an energy field only a klik from our first landing site? Among sentiments, it appears, a pornographic yen is an infallible index: a potential pacifying bond that we should perhaps explore.

Meanwhile, turnabout being fair play, several of us begin to find the jut of a Denebolar femoral spur, the lemonish fragrance of a ruptured ovipositor, or even a coded swarm of their gill-dwelling symbiotic vermin almost as arousing as venereal human contact or state-of-the-art handheld weapons of irresistible concupiscent destruction. What this bodes for future interspecies relations, I am loathe to speculate. Their reliquary, though, rewards a look-see.

— Michael Bishop



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Alastair Reynolds

ANGELS OF ASHES

The author was born in Barry, Wales, in 1966, and has lived in England, Scotland, and, since 1991, the Netherlands. He has a Ph.D. in astronomy, and has worked on and off for the European Space Agency.

His stories have appeared in *Interzone* and in the *Year's Best SF*.

"Angels of Ashes" is his first tale for *Asimov's*.

Illustration by Mark Evans

Sergio flew under a Martian sky the color of bloodied snow. Nerves had kept him awake the previous night, and now sleep was reclaiming its debt, even as he spoke the Kiwidinok liturgies that his catechist had selected from the day's breviary. Earlier, he had overflowed a caravan of clanfolk—unusual, that they should travel so far west from Vikingville—and the sight of their crawling, pennanted machines had brought Indrani to mind, her face more alluring than any stained-glass effigy in the seminary. She was asking his name, each syllable anointing him, and then, instead of Indrani, it was God roaring in his head, so deep it seemed as if the landscape was issuing a proclamation.

"UNIDENTIFIED AIRCRAFT," said the voice. "YOU ARE ABOUT TO TRANSGRESS CONSECRATED AIRSPACE."

He slammed awake, conscious of the bulge in his lap. He could still smell Indrani, as if he'd imported her fragrance from sleep. The Latinate script of the breviary had stopped scrolling across his retina, his destination cresting the horizon, much nearer than he'd realized. Cased in a pressure dome, it was a hundred-meter obelisk of alabaster, attended by smaller spires. Flying buttresses and aerial walkways infested the air between the spires, but there was no evidence of human habitation. "TRANSMIT RECOGNITION CRYPTOGRAMS IF YOU DO NOT WISH TO BE INTERDICTED BY TEMPLE DEFENSE SYSTEMS," the voice continued, although less impressively, since Sergio knew now that it was the catechist, the one that had been implanted on the day of his ordination. The voice added: "YOU HAVE TEN SECONDS TO COMPLY OR ALTER YOUR VECTOR. . . ."

"I understand," he said. "Just a moment. . . ."

Sergio instructed the ornithopter to emit the warble that would satisfy the Temple of his benevolence, then watched as the defensive gargoyles retracted lolling tongues and closed fanged jaws, beam-weapon nozzles vanishing into nostrils, laser-targeting eyes dimming from ruby brilliance.

"WELCOME, BROTHER MENENDEZ," the voice said. "PROCEED WITH THE GRACE OF GOD."

"YOU WILL BE MET BY A MEMBER OF THE ORDER."

The Machinehood, he thought.

The ornithopter punched through the resealing polymer bubble that encased the Temple, executing one circuit of the building before settling on the terrazzo at its base, furling wings with a bustle of synthetic chitin. Sergio emerged, nervously drying his hands against the ash-colored fabric of his trousers. His jacket was similarly dour, offset by the white of his collar and the Asymmetrist star embroidered above his heart. The bluish stubble on his scalp revealed the weal-like stigma of ordination.

He slung a black haversack over one shoulder and walked across the terrazzo, interlaid chevrons of sapphire and diamond gliding beneath his feet. The Temple rose above him, sculptured spires hectic with Kiwidinok figures. His catechist decrypted hidden data in the stonework, graphing up a commentary on the architecture, how the manifold truths of the Asymmetrist Testament were amplified in every masonic nuance. Obsidian steps climbed from the terrazzo into the Kiwidinok-encrusted doorway. Inside, he was met by one of the Machinehood; an *Apparent Intelligence* that his catechist identified as a cardinal named Bellarmine, after the Jesuit theologian who warned Galileo against the heresy of the heliocentric universe. Bellarmine's androform frame was shrouded in a hooded black cloak, but where the cloak parted, Sergio glimpsed a meshwork of sculpted metal overlying armatures, intestinal feedlines, and pulsing diodes.

"I'm humbled to be admitted. . . ." Sergio began, offering a complex genuflection of servility to the cardinal.

"Yes, yes," Bellarmine said, no expression on the minimalist silver ovoid of his face. "Pleasantries later. I advocate haste."

"I flew as fast as I could."

"Did you notice anything, on your way here? We have reports of clan incursions in this sector of the Diocese. Clanfolk don't usually come here."

"There was . . ." Except that perhaps he'd dreamt the clanfolk, as he'd dreamt Indrani. Possibly the question was a test. "Sorry; I spent the flight in prayer. Is Ivan as ill as we've heard?"

"Transcendence is imminent. He's no longer on medical support. He asked that we discontinue it, so that his last hours might be lucid. That, I suppose, has some bearing on *your* arrival." Bellarmine's voice was like a cheap radio.

"You don't know why I'm here?"

"There's something he insists on telling only to a human priest."

"Then our ignorance is equal," Sergio said, suppressing a smile. There had been few occasions since his ordination when he had felt equality of any sort with a member of the Machinehood. The Machinehood knew things; they were always a step ahead of the human clergy, and the Order's higher echelons were dominated by Apparents. They'd been afforded ecclesiastical rights since the Ecumenical Synthesis, when the Founder had returned from the edge of the system with his message of divine intervention. Given the nature of the Kiwidinok, it could hardly have been otherwise, but that did not mean that Sergio was comfortable in their presence. "Will you show me to Ivan?" he asked.

Bellarmino escorted him through a warren of twisting and ascending passageways, walls covered with Kiwidinok friezes. They passed other Apparents on the way, but never another human.

"Of course, there have been rumors," Bellarmine said, as if passing the time of day. "About the reason for your summons. You were ordained less than nine standard years ago?"

"Your information's excellent," Sergio said, his teeth clenched.

"It generally is. Was the procedure painful?"

"Of course not. The catechist's very small before they implant it—it's hardly a mosquito bite." He touched the weal on his scalp. "They induce scar tissue quite deliberately. But once the thing's growing inside you, you don't feel much at all. No pain receptors in the brain."

"I'm curious, that's all. One hears reports. How did you feel when you saw the cards properly: the first images of Perdition?"

He remembered the cards very well. The senior priest had opened a rosewood box and showed them to him before the catechist was installed. Each card contained a grey square, composed of thousands of tinier grey cells of varying shades—eleven, in fact, since that was the maximum number of shades that the human eye could discriminate. The matrix of grey cells looked random, but once the catechist was installed—once it had interfaced with the appropriate brain centers, and decoded his idiosyncratic representation of the exterior world—something odd happened. The grey cells peeled away, revealing an image underneath. They'd told him how it worked, but he didn't pretend to remember the details. What mattered was that the catechist permitted the ordained to view sacred data, and *only* the ordained.

And he remembered seeing Perdition for the first time. And the feeling of

disappointment, that something so crucial could be so mundane, so uninspiring. "I felt," he said, "that I was seeing something very holy."

"Interesting," Bellarmine said, after due reflection. "I've heard some say that it's an anti-climax. But one oughtn't be surprised. After all, it's just a neutron star."

He led Sergio across the unbalustraded walkway of a flying buttress, the ornithopter a tiny thing far below, like a grounded insect beside an anthill.

"You mentioned rumors," Sergio said, to take his mind off the drop below him. "Presupposing I'd done something that would merit it, I doubt very much that Ivan would summon me across half of Mars just for a reprimand."

"Sick old men do unusual things," the Apparent said, as they re-entered the middle spire. "But, of course, the point is theoretical. If you had sinned against the Order, if you had committed some indiscretion against your vows—even somewhere remote from Chryse—we'd know of it."

"I don't doubt it."

"That's wise." Bellarmine came to a halt. "Well, we've arrived. Are you ready for it, Menendez?"

"No. I'm nervous, and I don't understand why I'm here. Except that *this* has something to do with it." He hefted the haversack, like a trophy. "But I guess the only way to find out is to step inside and see what he wants."

"Perhaps you shouldn't expect an answer."

"What are you saying—that he doesn't necessarily know why he asked me here?"

"Only that he's sick, Menendez."

They entered a room where death was a quiet presence, like dew waiting to condense. Perfumed candles burned in sconces along the walls, each grasped in a Kiwidinok hand, rapier-thin fingers of wrought iron. Through the sepia gloom, Sergio could make out the sheeted form of the dying man, his bed surrounded by the hooded shapes of deactivated monitors, like kneeling orisons.

"You should be wary of tiring him. He may be slipping away from us, but that doesn't mean we should squander the seconds we have left in his presence."

"Are you staying here?"

"Oh, don't worry about me. I won't be far."

"That's a shame." Sergio suppressed a grin. "That you have to leave, I mean, of course."

After the Apparent had gone, Sergio waited for many minutes until his eyes adjusted to the darkness. He doubted that he had ever seen a creature as near to death as Ivan, and it was a small miracle that something this withered was even capable of metabolism; no matter if each breath was undoubtedly weaker than the one before it. Finally, Sergio's arm tired, and he placed the haversack on the floor. Perhaps it was the faint sound of the contact, or the imperceptible disturbance that the gesture imparted to the room's air currents, but the old man chose that moment to open his eyes, a process as languid as the opening of a rose at dawn.

"Menendez," Ivan said, his lips barely parting. "That's your name, isn't it?" Then, after a pause: "How was your flight from Vikingville?"

"The thermals," Sergio said, "were excellent."

"Used to fly gliders, you know. Paragliders. I jumped from a *tepui* in Venezuela, once. Back on Earth. Before the Kiwidinok came. One shit-scary thing to do."

"Your memories do you credit, Ivan."

"Christ, and I thought *Bellarmino* was stiff! Loosen up. I need reverence like I need a skateboard. You brought the recorder?"

"It's ready, although I'm not sure what you want of me. The Diocese told me next to nothing."

"That's because they didn't have the damndest idea. Here. Pass the bag." Ivan's hands emerged from the sheets and probed the haversack, removing the antique consecrated tape recorder and situating it carefully next to his bedside. "Ah, good," he said. "You brought the other thing. That's good, Menendez. Real good. Think I like you better already." Trembling, he removed a small flask of whisky, uncapping it and holding it under his nose. "Clanfolk-brewed, huh? You took a risk bringing it, I know."

"Not really. I presumed it served some symbolic function."

"You go right on presuming that, son." Ivan tipped the flask to his lips, before placing it aside, amid a pile of personal effects on the other side of the bed. "You help yourself, you want some. And sit down, won't you?"

"I'd like to know why I'm here."

"Well, there's no mystery. There's something I have to tell you—all of you—and I couldn't trust any of the senior Apparents."

Sergio lowered himself into a seat, nervously glancing over his shoulder. For a moment, he'd imagined that he'd glimpsed Bellarmino's face there, rendered bronze in the candlelight . . . but there was no evidence of him now. "Does what you have to tell me relate to the Kiwidinok?"

"The Kiwidinok, and Perdition, and everything else!" He paused to lubricate his lips, studying Sergio through slitted eyes. "Not quite the reaction I was expecting."

"I was . . ." Sergio shook his head. *Thinking of Indrani*. "Where do you think we should begin?"

"The day I stopped shoveling shit in Smolensk."

"I—"

"The day the Kiwidinok came. October 2078. Year Zero. Yeah, I *know* what you're thinking; that you *know* it all. That the episode's well-documented. Sure enough, *but* . . ." Now Ivan found a reserve of strength adequate to push himself from the horizontal, until he was almost sitting. Sergio adjusted the pillows behind his head. "It's well-documented, but what comes later *isn't*. If I just came out and told you, you might conceivably think I'd lost all grip on reality."

"I'd never dream of dismissing what you have to say; none of us would."

"See if you feel that way when I'm finished, son!" Ivan allowed himself another thimbleful of clanfolk whisky, offering it ineffectually in Sergio's direction before continuing. "How old are you son, twenty-four, twenty-five, in standard years? I can't have been much older than you when it happened. We didn't call them Kiwidinok back then. That came much later, once they'd ransacked our cultural data and chosen a name for themselves. It's a Chippewa word; means *of the wind*. Maybe it has something to do with the way they move around."

"That seems likely."

They had arrived eighty-four years earlier, entering the solar system at virtually the speed of light. Their gnarly, lozenge-shaped ship, which might once have been a small asteroid, deployed a solar sail when it was somewhere beyond the distance of Pluto. It seemed laughable—had these visitors crossed interstellar space in the mistaken assumption that the pressure of solar ra-

diation would decelerate their craft? Yet, staggeringly, the Kiwidinok ship came to a standstill in only three hours, before quietly swallowing its sail and vectoring toward the Earth.

Diplomatic teams were invited within the presence of the aliens. In the few video images that existed, the Kiwidinok resembled steel and neon sculptures of angels, blurred and duplex, like Duchamp's painting of a woman descending a staircase—humanoid, slender as knives, and luminous, sprouting wings that simply faded out at their extremities, as if fashioned from finer and finer silk. Their faces were hurtlingly beautiful, though mask-like and impassive, and their slitted mouths and jeweled eyes betrayed only vacuous serenity. Quickly the diplomatic teams realized that they were dealing with machines. Once, so they themselves claimed, the Kiwidinok had been organic, but not for tens of millions of years.

"Our perspective . . . is different," they had said, in one of the rare instances when they openly discussed their nature. "Our perception of quantum reality differs from yours. It is not as ours once was."

"What do you think they meant by that?" Ivan said, breaking from his narrative to stare at Sergio intently. "No, leave the recorder running."

"I can't begin to guess."

"Must have been something to do with their becoming machines, don't you agree?"

"That would make sense. Is this—um—strictly relevant? I'm only thinking of your strength."

Ivan's hand clenched around Sergio's wrist. "More relevant than you can possibly imagine." He emitted a fusillade of coughs before continuing. "You need to understand this much, if nothing else: The problem of quantum measurement—that's the crux. How the superposed states of a quantum system collapse down to one reality. Understand *that*—and understand *why* it's a problem—and the rest will follow."

Sergio looked guiltily at the recorder, aware of how every word spoken was being captured indelibly. "There was mention in the seminary of cats, I believe. Cats in boxes, with radioisotopes and vials of arsenic."

"When I wasn't shoveling shit in Smolensk, I used to think of myself as something of an amateur philosopher. I'd read all the popular articles, sometimes even kidded myself that I understood the math. The point is, all quantum systems—atoms, crystals, cats, dogs—exist in a superposition of possible states, like photographs stacked on top of each other. Provided you don't actually *look* at them, that is. But as soon as a measurement's made on the system, as soon as any part of it's observed, the system collapses—chooses one possible outcome out of all the options available to it and discards all the others." Ivan relaxed his grip. "Would you pour me some water? My throat is rather dry. That clanfolk stuff's real firewater."

While he attended to this, Sergio said. "There was never time, was there? To ask the Kiwidinok everything we might have wanted."

Ivan quenched his thirst. "When they announced that they were leaving, that was when the big panic began, because it seemed as if we hadn't learnt enough from them; not supped sufficiently from the font of their wisdom."

"That was when they made the offer."

"Yeah. They'd already dropped hints here and there along the line that our—how shall I say it? That our existence wasn't quite as we imagined it to be; that there was some fundamental aspect of our nature that we just weren't aware of?" Ivan held his hand up to the candlelight, as if appalled at

some new translucence in his flesh. "You humans, they'd say, you just don't get it, do you? That was what it was like. They said that we could spend our remaining time asking them little questions, and not even chipping at this one fundamental misapprehension—or we could arrange for one person to be, shall I say, *enlightened*?"

"And you were selected," Sergio said.

"Put my name forward, didn't I? Ivan Pashenkov: effluent disposal technician from Smolensk. Didn't think I had a chance in hell—or Perdition, huh? Don't laugh so much, son."

"How did you feel when they selected you, out of all the millions who applied?"

"Very drunk. Or was that the day afterward? Hell, I don't know. How was I meant to feel? Privileged? It wasn't as if they picked me on my merit. It was sheer luck."

After his selection, the Kiwidinok had taken him aboard their ship, along with a handful of permitted recording devices small enough to be worn about his person. Preparing to depart, the ship had encased itself in a field of polarized inertia, defining a preferred axis along which resistance to acceleration was essentially zero, essentially infinite in all directions perpendicular to that axis. For interstellar travel, this was hardly an inconvenience.

"They immobilized me," Ivan said. "Locked me in a pod, and pumped me full of drugs."

"How was it?"

He reached up with one hand and traced a line along the occipital crown of his skull, fingertips skating through the veillous hair that still haloed his scalp. "The brain's divided into two hemispheres; certain mental tasks assigned to one or the other half, like language, or appreciating a good wine, or making love to a woman." The remark hung in the air, like an accusing finger. Then he resumed: "There's a tangle of nerves bridging the hemispheres; the commissure or corpus callosum. They're the means by which we synthesize the different models of the world constructed in either hemisphere; the analytic and the emotional, for instance. But the Kiwidinok drive did something to my head. Nerve impulses found it difficult to cross the commissure, because it required movement against the preferred axis of the polarization field. I found my thoughts—my conscious experience—stagnating in one or the other hemisphere. I'd think of things, but I couldn't assign names to any of the mental symbols I was imagining, because the requisite neural paths were obstructed."

"But it didn't last long."

He waved his hand. "Longer than you think. We got there, eventually. They showed me the sun and it was faint, but not nearly as faint as the brightest stars, which meant they couldn't have carried me very far beyond the system."

"Just beyond the cometary halo."

"Mm. To within a few light-minutes of Perdition, except of course we didn't even know it existed."

"Everything that you've told me," Sergio said, "accords exactly with what we were told in the seminary. If you now reveal that the object in question was a neutron star, I don't see how your account can differ in any significant way from the standard teachings. I mean, the mere existence of . . ."

"It exists," Ivan said. "And it's everything I ever said it was. But where it differs . . ." Then he paused, and allowed Sergio to bring another beaker of

water to his lips, from which he drank sparingly, as if the fluid was rationed. Sergio recalled his own thirst, much earlier, in the Juggernaut of the clanfolk caravan, after the ornithopter crash, then purged the thought. "Listen," the old man said. "Before we continue, there's something I have to ask you. Do you mind?"

"If I can help."

"Tell me about Indrani, if you'd be so kind."

Her name was like a penance. "I'm sorry?" And then, before he could even hear Ivan's answer, he felt the fear uncoil inside of him, like a python waking. He dashed from the room, cupping a hand to his mouth. Retracing his steps, he reached the bridge, leaning over the railed side, and was sick. For a moment, it was a thing of fascination to watch his vomit paint the pristine lower levels of the alabaster spire. Then, when the retching was over, he wiped the tears from his eyes and drew calming breaths, accessing soothing mandalas from his catechist. One of the gargoyles loomed above, large as a naval cannon, the faint curve of its jaw seeming to mock him.

"You seem perturbed," Bellarmine said, appearing at the bridge's end. "I read it in the salinity of your skin. It modifies your bioelectric aura."

"What is it you want?"

The cloaked figure moved to his side, the rust-colored, softly undulating landscape reflected in Bellarmine's mirror-like ovoid face. For an instant, Sergio thought he saw something: a scurry of silver or chrome, something darting between dunetops. But if it was real, it was gone now, and he saw no reason to trouble Bellarmine with his observation. "Was there another presence, Menendez?"

"Another what?"

"In the room. Another such as I."

Sergio stared deeply into the mirror before answering. "I think I would have noticed. Why? Ought there to have been another?"

The Apparent leant closer to him, as if to whisper some confidence. After a moment, Bellarmine said: "Put the question from your mind and answer this instead. What has he told you?" The armed gargoyle was reflected in the mirror now, its ugliness magnified by distortion. "What has he told you? It is a matter of security for the Order. Silence could be considered perfidy."

"If the Founder wished you to know, he would not have called me from the Diocese."

"You are in a position of some vulnerability, Menendez."

"I assure you, I'll hear what he has to say," Sergio said. "And whatever message he has for us, I'll ensure that it returns to Vikingville."

He navigated to the bedside, between the monitors, and assumed his station next to Ivan. "When you first mentioned her," he said quietly, with more calm than he believed himself capable of, "I dared to imagine I'd misheard you."

"Tell me what happened," Ivan said, the recorder still conspicuously running. "I'll then reciprocate by telling you what I *really* experienced around Perdition."

"Bellarmine knows about her, doesn't he?"

"I guarantee his knowledge of events arrived via a different route than mine. I suggest you start where I did—at the beginning. You'd only recently been consecrated, hadn't you."

"A few days after the catechist was installed." Sergio touched the weal on

his scalp. "It was my first mission for the Diocese—a trip north of Vikingville, to visit clanfolk. They were using consecrated servitors supplied by the Order, so there was a pretext for me to arrive with little or no notice."

It was not difficult to fall into the telling of what had happened. The scavenger clan's caravan had hoveled into view below: a long, strung-out procession of beetle-backed machines, some barely larger than dogs, others huge as houses. The largest was the Juggernaut, the command vehicle of the caravan, in which the clan would spend months during their foraging sojourns north of Vikingville, winnowing the desert for technological relics left behind by the wars that had waged across Mars before and after the Ecumenical Synthesis.

Although it was decades since the last iceteroid had crashed onto the Martian surface, spilling atmosphere across the world, the climate was still roiling in search of an equilibrium it hadn't known for four billion years. Occasionally, squalls would slam into the flight-path of an ornithopter, unleashing twisting vortices of separated laminar flow, too sudden and vicious to be smoothed out by the thopter's adaptive flight surfaces.

He hadn't seen it, of course—and when it did hit, it seemed as if the adaptive flight surfaces accommodated the squall even more sluggishly than usual. One of the thopter's wings daggered into the dunes. Sergio saw the other wing buckling like crushed origami. Then—blood sucked from his head by the whiplash—he began to black out, retaining consciousness just long enough to observe the monstrous wheels of the Juggernaut rolling toward him.

And then he woke inside the machine.

"She was like an angel to me," Sergio said, grateful now that he could unburden himself. "I wasn't badly injured, really—I felt a lot worse than I had any right to. Indrani fetched me water, which tasted dusty, but was at least drinkable, and then I started to feel a little better. Naturally, I had questions."

"You wondered why she was alone, a girl like that, in charge of a whole foraging caravan. Was there anyone else?"

"Oh, a brother—Haidar, eight or nine years old. I remember him because I gave him toys."

"Other than Haidar, though . . ."

"She was alone, yes. I asked her, of course. She told me her parents were both dead; that they'd been killed by the Taoist Militia." Now that he was doing most of the talking, Sergio found his mouth quickly parched, helping himself to the Founder's water. "I could have called up the catechist's demographics database to check on her story, but I hadn't been ordained long enough to think of that. Anyway, the squall wasn't going anywhere, and neither was my ornithopter—we were stuck in the Juggernaut for a few days at the least. I was—"

"You're about to say that you were weak, traumatized, not fully in control—not really yourself?"

"Except that it wouldn't be true, would it? I knew what I was doing. I was weak in my adherence to the Order. But strong enough to make love to Indrani. I had some toys in the ornithopter; trinkets we always carried, to pacify children and make them think favorably of the Order when they grow up. Indrani fetched them for Haidar, to keep him occupied. Then we made love."

"Your first time, right?"

"There hasn't been another, either."

"Was it worth it?"

"There's never been a day when I haven't thought of her, if that answers your question. I occasionally delude myself that she might have felt similarly."

"I'm glad. You're going to sin, at least have some fun."

But when the storm had died, and all that remained of his ornithopter was a pair of glistening wingtips protruding from a moraine of red dust, two lightweight surface vehicles scudded from the south. They were tricycles, bouncing on obese tires, their riders cocooned in filigreed cockpits, enfolded by fuel-cells and comms modules.

Indrani's parents.

"I never understood why she'd lied to me, manufactured the whole story about running the caravan on her own; about her parents being murdered by the Taoists. Perhaps she initiated everything that happened, with that lie."

"That would be convenient."

"In any case, I never had a chance to find out. Her parents still had to dock their tricycles in the Juggernaut's vehicle bay, which gave us time to fall into our old roles. If her parents suspected anything, I never saw it. No; they shamed me with their humility and hospitality. It was another three days before we could meet with a transporter that was returning to Vikingville. And when I returned to the seminary, they treated me as a hero. Except for some of the other priests, who seemed to guess what had happened."

"Yet it didn't destroy you."

"No," Sergio said. "But I always feared I'd hear her name again. I was right to fear, wasn't I?"

"You probably imagine that she lodged a complaint with the Diocese, or that her family somehow learnt the truth and did it themselves. But that's not how it happened. Not at all."

"How did Bellarmine find out?"

"I'll tell you, but first I have to reciprocate my side of the bargain."

Sergio took a deep breath, oddly aware now that the room seemed more claustrophobic than earlier: darker and more oppressive, as if it was physically trying to squeeze the life out of the man dying within it.

"All right," he said. "I'm not sure why you wanted to know about Indrani, but you're right. I should hear about Perdition. Although I don't see how anything you can say can really—"

"Menendez, shut up. What you saw on the cards in the seminary, on the day you were ordained, all that was true. Perdition exists; it's a neutron star, just like I always said it was." And then Ivan talked about the nature of the star; things Sergio had learnt in the seminary but then forgotten, because they were not absolutely central to his faith. That a neutron star was a sphere of nuclear matter forged in the heart of a dying star, containing as much mass as the sun, but compressed into a size no larger than Vikingville. A sugarlump from its heart would have weighed half a billion tons. Perdition was still cooling rapidly, like a cherry-red ingot removed from the furnace, implying that it had been born no more than a few hundred thousand years earlier, very close to its present position. A hot, blue star must have died, outshining the entire galaxy in its expiration. The nebula that that star had shed was gone now, but there was no doubting what had happened.

Perdition had been born in a supernova.

"It shouldn't have existed," Ivan said. "No evidence for a supernova was ever found; no mini-extinction or enhancement in the local mutation rate; no dieback or brief flourish of speciation. Nothing." The man looked around at the few candles still burning, their incense no longer the dominant smell in

the room. "Something like a supernova doesn't just happen without anyone noticing. Matter of fact, if you're as close to it as we would have been, you're not going to have the luxury of noticing much else, ever again. You're going to be a pile of ashes. And yet it must have happened, or else there'd be no Perdition."

"God must have intervened."

"Yeah. Must have poked his big old finger into the heart of that collapsing star, causing it to happen in just such a way that we didn't get crisped. That's the point, isn't it? Our little miracle. And I suppose if you're going to have a miracle, it's not a bad one."

The essence of it was simple enough: it had been known, on purely theoretical grounds, that supernova explosions might not be completely symmetric; that the blast might not emerge in a perfectly spherical fashion. Tiny initial imperfections in the dynamics of the pre-explosion core collapse might be magnified chaotically, building and building, until the star blew apart in a hugely asymmetric manner, lopsidedly spilling half its guts in one direction.

"They showed me how delicate it was," Ivan said. "How precise the initial conditions must have been. If they'd differed by one part in a billion—"

"We wouldn't be having this conversation."

"And what does that tell you—us—Menendez?"

Sergio looked guardedly at the recorder. An ill-chosen word at this point could ruin his position in the Diocese, yet what seemed more important now was to give the Founder the answer he wanted to hear. "An event of staggering improbability happened, an event that had to happen for humankind to survive at all. A miracle, if you like. An act of intervention by God, who arranged for the initial conditions to be just as they had to be."

"You must have been teacher's pet at the seminary, son."

For the first time, Sergio felt angry, though he fought to keep it from his voice. "What they taught me, Founder, is only what they learnt from you, on your return from Perdition. Are you saying you were misinterpreted?"

"No, not at all. Is that damned thing still running?"

"Would you like me to turn it off?"

"No, but move it closer because I want what I'm about to say to be beyond any possible doubt. Because when you take this back to the Diocese, they'll find every possible way to twist my words—even what I'm saying now." He waited while Sergio adjusted the position of the recorder, a futile gesture but one that seemed to satisfy Ivan. Then he said: "No one misinterpreted a word of what I said. I lied. Maybe it had something to do with the way the Kiwidi-nok drive interfered with brain function."

"That would be convenient, wouldn't it."

"Touché. Do you know about temporal-lobe epilepsy, Menendez? Almost no one suffers from it now, but those that do often report feelings of intense religious ecstasy."

After long moments, Sergio said: "The kinds of drugs that have been administered to you could cause hallucinations, I think. With all respect."

Ivan pivoted his body across to the other side of the bed, rummaging in the dark pile of effects placed on the nightstand next to it. He held up a syringe, needle glistening in candlelight. "I told them I was more frightened than in pain. It's hard to die a prophet when you don't believe, Menendez. They gave me this drug; said it purged fear. Well, maybe it did—but not enough."

Words formed in Sergio's mouth and seemed to emerge of their own volition.

"How did you lie, and why did you do it?"

"To begin with, it wasn't really lying; I don't think I was clinically sane, and I think I believed my own delusions as much as anyone. But afterward—when my brain function had stabilized, perhaps—*then* it became lying, because I decided to maintain the untruth I'd already started. And you know what? There was nothing difficult about it. More than that, it was seductive. They wanted to believe everything I said, and there was nothing that could be contradicted by the recording devices. And in return they feted me. I didn't ask for it, but before I knew it I was at the center of a cult—one that imagined it glimpsed God in the asymmetric physics of a stellar collapse. And then the cult became a religious movement, and because it was the only movement that had no need for faith, it soon absorbed those that did."

"The Synthesis."

Ivan's nod was very weak now. "It was much too late to stop it by then, Menendez. Not without having them turn against me. But now I'm dying. . . ."

"They won't love you for it."

"Sooner be reviled than martyred. Devil always had the best tunes, huh? Seems healthier to me. Which is why you're here, of course. To hear the truth, take it back to Vikingville and begin dismantling the Order."

"They'll hate me equally," Sergio said, feeling as if he was debating a piece of theological arcana that had no connection with reality. "Besides—I still don't see how you can possibly have been lying, if Perdition exists. If there was no divine intervention, then all that's left is—what, massive improbability?"

"Exactly."

"And that's somehow preferable?"

"Truthful, maybe. Isn't that all that matters?" Ivan said it with no great conviction, still holding the syringe up to the light, as if putting it down would have been the more strenuous act. "Quantum mechanics says there is a small but finite probability that this syringe will vanish from my hand and reappear on the other side of the Temple wall. What would you think if that happened?"

"I'd think you were a skilled conjurer. If, however, there was no deception . . . I'd have to conclude that a very unlikely event had just happened."

"And what if your life depended on it happening?"

"I don't follow."

"Well, imagine that the liquid in this syringe is an unstable explosive; that in one second, it'll detonate, killing everyone inside this room. If the syringe didn't jump, you'd be dead."

"And if I survive . . . it must, logically, have happened. But that's not very likely, is it?"

"Never said it was. But the point is, it doesn't *have* to be—an event can be incredibly unlikely, and still be guaranteed to happen, provided there are sufficient opportunities for it to happen; sufficient trials."

"Nothing profound in that."

"No, but in the quantum view, the trials happen *simultaneously*, in as many parallel versions of reality as are necessary to contain all possible permutations of all quantum states. Are you following me?"

"I was, until a moment ago."

A smile haunted the old man's lips. "Let's say that there are, for the sake of argument, a billion possible future versions of this room, each containing one identical or near-identical copy of you and I. Of course, there are many more than a billion—it's a number so huge that the physical universe wouldn't be

large enough for us to write it down. But call it a billion. Now, each of those rooms differs from this one on the quantum level, but in the majority of cases, the change is going to look random; meaningless. There will also be changes that look suspiciously coherent. But all that's happening is that every possible probabilistic outcome is being played out, completely blindly." He waited while Sergio fetched him some more water, brow furrowed as if composing his thoughts. "Logically, there exists a future state of the room in which the syringe borrows enough energy to tunnel beyond the wall and explode safely. It's unlikely, yes, but it *will* happen if there are sufficient trials. And in the quantum view, those trials all happen instantly, simultaneously, every moment we breathe. We feel ourselves moving seamlessly along one personal history, whereas we're shedding myriad versions of ourselves at each instant—some of which survive, some of which don't." He released the syringe, allowing it to clatter to the floor, among the personal detritus next to his bed. "Not bad for an effluent disposal technician from Smolensk, huh?"

"I believe I see the tack of your argument."

"When the supernova happened, the chance of any one version of us surviving was absurdly small—yet one version of us *was* guaranteed to survive, because every possible quantum outcome was considered."

"How do you know all of this?"

"Isn't it obvious by now? The Kiwidinok showed me. And I mean *showed* me. Put it in my head, all in one go. Their consciousness—if you can call it consciousness—is blurred across event-lines. It's what they gained when they became less like us and more like machines. That's why they see things differently."

Sergio took a breath to absorb that.

"And what did they show you?"

"Dead worlds. Much like Earth, but where the initial conditions of the supernova collapse weren't quite right to avoid our annihilation. Where, if you like, God hadn't poked his finger into quite the right place. Worlds of ash and darkness."

He dug through the effects again, brushing aside the topsoil of junk. His hands found a small flat bundle that he passed to Sergio. The oiled paper of the bundle unraveled in Sergio's fingers, exposing a cache of glossy grey cards much like those he had been shown in the seminary, shortly after his catechist had assumed residence.

But these images were not the same.

"I don't know how they did it," the Founder said. "But the Kiwidinok were able to interfere with the recording devices I took with me to Perdition. They were able to plant images on them; data from other event-lines."

"Where the supernova happened differently."

"Where we got crisped."

In each image, the degree of laceration was different, but it was never less than a mortal wounding, so absolute that life had not managed to re-establish tenancy on dry land. In some of the images, it was possible to believe that something might still live in the shriveled, oddly shorelined oceans that mottled the surface. In others, there were no oceans to speak of at all, nothing much resembling atmosphere.

"Mostly, that's how it was," Ivan said. "Mostly, we never made it through. *This* event-line, the one we're living in, is the freak exception; a remote strand on the edge of probability space. It only exists because we're here to observe it. And we're only here to observe it because it happened."

Sergio picked through the rest of the images, variations on the same desolate theme. He knew with utter conviction that they were real—or as real as any data shared between event-lines could ever be. These images were secrets that Ivan had kept for eighty years—images that spoke not of divine intervention, not of miracle, but of brutality. We survived, Sergio thought, not because we were favored, not because we earned salvation, but because the laws of probability decreed that *someone* had to.

"What now?"

"Take what you have back to the Diocese. Make them listen."

"You're asking a lot of me."

"You're a man of God," Ivan said, with very little irony. "Ask Him for assistance."

"Why should I still believe?"

"Because now, more than ever, you need faith. That was what was always missing—when we had proof we didn't need it. But our proof was a fiction. Our Order was a lie built on lies. But tearing down the Order doesn't mean tearing down your faith, if you still have it. Me, I never found it, except in a particularly good thermal or at the end of a bottle. But you're a young man. You could still find faith, even if you haven't already. I think you'll need it, too. It'll be a kind of Jihad you'll be fighting."

"You'll find it harder than you imagine," said a voice, which did not come from the figure in the bed.

"Bellarmine," Sergio said, turning round to face the Apparent, who had stolen quietly into the chamber. There was a whisper of scythed air, a flash of metal, and Bellarmine's hand acquired cards from Sergio's grip. For a moment, the Apparent held them to its face, feigning curiosity. Then it ripped them to shreds with a deft flicking movement.

"I knew of the existence of these images," the wasp-like voice said. "It was hardly worth the effort of destroying them."

"Be careful what you say. The recorder's still running."

"My voice won't register. I'm addressing you directly via your catechist. If you play the recording to anyone in the Diocese, all they'll hear is you addressing an empty room."

Sergio reached over and killed the recording. "Speak now, then. What's going on? How did you know about Indrani?"

Bellarmino came closer. Sergio felt something crawl through his skull.

"Isn't it obvious? Via your catechist." There was a deeper timbre to his voice now that he was speaking aloud. "You imagine that the device is passive; that it exists merely to offer guidance and to facilitate the viewing of holy data. But there's more to it than that. Behind my face is an array of superconducting devices, sensitive to minute changes in the immediate electromagnetic environment. It's how I sensed your nervousness, on the balcony. The array enables me to read the data captured by your catechist—everything that you see and hear. You betrayed yourself, Menendez."

"How long have you known?"

"We Apparents share such data as it conveniences us. I was informed of your indiscretion not long after the incident itself."

"Then why—no, wait, I see. You were waiting, weren't you." Now that it was clear to him, he almost laughed at the obviousness of it. "You kept the evidence from the Diocese, until such time as it might be useful in blackmailing me. That's clever, Bellarmine. Very clever. I'm impressed."

"You were nothing exceptional."

"Of course not," Ivan said, his voice a death-rattle. "How could he be? When he was rescued by Indrani, he was just another priest green from the seminary."

"There must be others," Sergio said.

"Perhaps not," Bellarmine said. "You were especially weak, Menendez. You offered yourself to us."

"I broke no vows."

"Then why conceal what had happened until now?" Quietly, Bellarmine addressed the Founder. "You know, too. He spoke of the matter with you, I see."

Sergio returned the recorder to his bag. "You can't destroy this," he said to the watching machine. "The Diocese expects a recording, whether you like it or not."

"First, you have to return to Vikingville," Bellarmine said, and then took a step nearer Sergio. But before he reached him, the Apparent stopped and leant his faceless frame across the Founder's bed.

"Go," Ivan said. "Get the hell out of here, while you still can."

Bellarmino knelt and retrieved the syringe that the Founder had dropped. With a series of mechanically precise movements, he plunged the needle into a rubber-capped bottle, congesting the hypodermic with something as clear and deadly as snake venom. "You took this to fend off the fear of death. Now it will hasten its coming. Isn't that a kindness?"

The Apparent snatched aside the yellowing sheets, exposing the man's hairless sternum. The Founder reached up and wrestled with Bellarmine's wrist, as the needle descended toward his heart. Sergio took a step closer, watching as the man's jaw clenched in the agony of resistance, his free hand pawing effectlessly at the machine's chest.

"Menendez! I'm a dead man anyway! Go!"

Sergio dived forward, trying to wrestle Bellarmine away from the bed, but the Apparent might as well have been some huge piece of industrial machinery anchored to the Temple itself. The descent of the syringe did not falter, even when Bellarmine flung Sergio across the room. Sergio hit the wall, breath ejected from his lungs, the hard edges of the Kiwidinok frieze pushing into his spine. His vision swimming in stars, he struggled to his feet.

"I'm sorry, Ivan," he wheezed.

The needle reached his flesh, then entered, and as the tip broke the skin, Ivan's strength flew away like a flock of startled crows.

"I won't let you down," Sergio said. "That much I swear. And you're right—this is the better way. Better faith than proof."

Bellarmino's voice was horrifically calm. "You won't succeed."

"Good . . . thermals," Ivan said, and then emitted a final gasp, his eyes locked open less in shock than sudden joy.

Sergio was already running. He had almost made it to the chamber's door when Bellarmine reached him, impeding his progress with surprising gentleness.

"I don't want to kill you, Menendez."

Behind Bellarmine, Sergio saw a second disconnected globe bob across the room, hued more yellow than silver.

"You want me to betray Ivan—to return with a faked recording, is that it?"

"Better to betray one man than a God."

The haversack slipped to the floor. "If I refuse, you'll kill me."

The other Apparent loomed behind Bellarmine and then did something

Sergio had not been expecting. Maybe the shock of it registered in his expression, because Bellarmine whipped around, momentarily relinquishing his grip. The other Apparent's cloak had parted to reveal human hands, gripping a weapon.

There was a colorless flash and an intense pulse of pain throughout Sergio's skull. He began to scream, but the pain was already over, abrupt as a strobe. Bellarmine's armored frame collapsed to the ground and quivered there, like a beached eel.

"I hit him with an EM pulse," said the other, whose voice lacked the machinelike quality of the fallen cardinal. "Must have hit your implant as well; hope it didn't hurt too badly."

"Who are you?"

One free hand reached up and snatched aside the alloy mask, which Sergio now saw was perforated with tiny viewholes. What lay behind it was the face of a very young man, drenched in sweat, curtained by lank black hair. A face he almost recognized, as if seen through a distorting lens. "I think you know my sister, priest. And I think we'd better get moving—the pulse won't keep him down for long, and I'll bet he doesn't need much time to reboot."

"What's happening?"

"What's happening is, you're being rescued."

"You're Indrani's brother?"

Haidar nodded. "But I think we'd better run and save the questions for later—there are more of his kind between us and your little plane. It can seat two, can't it?"

"At a push."

Behind, Bellarmine made a sound like a squealing kitten, limbs thrashing. The silver ovoid of his face turned to Sergio, framed in candleflame. "I will kill you, Menendez, if you run."

Sergio closed his fists around the nearest candelabra, wrenching it from its sconce, amazed at his own strength. The flame extinguished immediately, and for a moment he was left holding the wrought-iron Kiwidinok fist as if he hadn't the faintest idea what to do with it. Then he saw the syringe, still jutting from Ivan's fist. And the perfect mirror of Bellarmine's face, like an unrippled lake in moonlight.

He smashed the candelabra into the ovoid, the thin reflective patina crumpling under the impact.

Haidar whistled. "You don't just burn your bridges, priest. You cremate the bastards!"

It took far longer to reach the ground than he'd expected, and along the way Haidar had to shoot three more Apparents, leaving each one in a state of palsy. "Bellarmine's probably on his way already," the man said. "He'll have alerted the others by now, so we won't have the element of surprise. Not that we really need it, with this little toy." He waved the EM gun ahead of them, like a crucifix. "It's a real weapon, left over from before the Synthesis. Not that the Synthesis exactly ended wars, either, but you get my drift."

"How does it work?"

"Screws the nervous system. Not the central processor—that's mainly optical, but the servosystems that drive their musculature. With your implant, it would have fired the interface points, where it couples to your neurons, but it wouldn't have touched the data inside it."

"That's good. All we have is what's in my head."

"And mine too," Haidar said. "Don't forget, I was there all the time; heard every word he said."

Ahead, daylight burned a hole in the darkness, catching the nested edges of the Kiwidinok figures engraved around the corridor walls. "What were you doing here?"

"Ivan knew about Indrani," the brother said. "But he didn't find out about her the same way Bellarmine did. Fact is, Ivan heard the story from Indrani herself. Or from me, which is much the same thing."

"I don't follow." While he spoke, Haidar doused another pair of machines, each pulse of the weapon triggering sympathetic echoes somewhere in Sergio's cortex.

"Indrani sent me," Haidar said. "To put the story right. Took her nine years to build up courage, but I guess she knew it wasn't going to be easy. And she trusted the old guy. Figured he wasn't part of it all, and she had to get an audience with him before he croaked."

They reached the outside. Sergio was relieved to see his ornithopter still resting intact, like a perched dragonfly of blown glass.

"Part of what?"

"What happened to you out there, in the caravan." Haidar paused to discard his cloak, revealing a tight-fitting ribbed surface suit flashed with decals of clan affiliation. "Listen, it wasn't quite how you thought it was. I know because I heard you tell the Founder, and I don't think you were lying."

They sprinted toward the ornithopter. "How was it, then?"

"The crash was no accident, for a start. You said it yourself—it was as if the squall took the plane unawares. Well, the squall wasn't planned, but you were pretty much guaranteed to crash then—someone had monkeyed with the plane."

"Someone wanted me to crash?"

"Not fatally, but enough to keep you from getting home, so's you'd have to seek shelter in the caravan, and then fall prey to my sister's undeniable charms. Worked, didn't it?"

"Only someone in the Diocese could have done that."

"It's the Machinehood. They're everywhere, right? Seems they see themselves as the next phase in evolution, and the Order's how they're gonna subjugate humanity without anyone noticing. They do it to most of the priests fresh out of the seminary, is what Indrani reckons—set them up for a fall and watch it happen."

"They knew."

"What?"

"The other priests. They knew what had happened to me. I assumed it was because my lies weren't very convincing. I never stopped to think something similar might have happened to them as well."

"Old Ivan was right, priest."

"What?"

"You really were green."

They reached the waiting ornithopter. Sergio opened the cockpit, frantically adjusting the seat to make room for a passenger behind him, ratcheting it forward. "Think you can squeeze in there? It's a long flight back to Vikingville."

"Hopefully we don't have that far to go."

Sergio followed him into the enclosure, slamming the canopy down and bringing the little flying machine to sluggish life, its wings quickening with

shivers of excited chitin. "Let me get this straight," he said, fingers dancing over the controls. "They set us up for a fall and some of us take one. They learn about it through our catechists—and then we can always be controlled, if we threaten to turn against the Order."

"That's about the size of it."

They were aloft.

"It's elegant. Cynical, but elegant. But it wouldn't work without outside assistance."

"Ways and means," Haidar said. "With Indrani, it was just another form of blackmail. The clan was in hock to the Asymmetrists—we depended on their consecrated machines to make a living. Someone from the Order—someone who must have been working for the Machinehood—contacted Indrani and let her know what was expected of her, and what would happen if she failed. That her family would be ruined. That she'd probably starve."

The ornithopter's shadow grew smaller, wings beating furiously to gain altitude, each thrust sending rainbow moiré patterns down their length.

"How did you infiltrate the Order?"

"There are tunnels under the sand, left over from the wars. Some of them reach beneath the dome. Being good clanfolk, we know all about 'em. And my disguise only had to fool the machines from a distance."

"Bellarmine was suspicious."

"Couldn't read me like the others. Must have crossed his mind that I was someone really high-up, or a new faction among the Machinehood. Either way, bad news."

They punched through the polymer now; a lurch of resistance and then freedom. Sergio risked a look around, at the receding Temple, watching as the defensive gargoyles opened their mouths and their little eyes ignited.

A voice chirped in his head. It might once have been the voice of God, but the damaged catechist reduced it to an irritating buzz, like a bluebottle trapped in a thimble.

"I think they're threatening us," Sergio said. "They might try shooting us down. They'd rather I never returned to Vikingville, even though they can discredit me. Too much risk of failure, I imagine."

"Just fly it, priest."

The sky on either side of the cockpit flared red, like a sudden bright dusk. Lasers stabbed past them, and then knifed closer, converging, so that the ornithopter was encased in a tunnel of linear red beams.

Again the buzzing in his skull.

The beams touched the wings, their veined skin vanishing in a puff of ionized chitin, leaving only a blackened skeletal subframe. The nose of the ornithopter pitched down as if in prayer.

"I think we're going to crash," Sergio said, with what struck him as astonishing calm. He grasped for what remained of his faith, not entirely sure that there was anything left to salvage.

And then hit the ground.

There was light, and blackness, and a period of unguessable time—perhaps comparable to the limbo that the Founder had experienced aboard the Ki-widinok ship, during his flight to Perdition. Yet when it ended, Sergio found that he had barely traveled. He was face down in sand, unutterably cold, his lungs engulfed in the pain of inhalation. The snapped wreckage of the ornithopter was visible in his peripheral vision, like a toy crushed by an indolent child. Haidar was looming over him.

"I think you'll live, priest, but you have to move now." The brother spoke with an ease Sergio now found unimaginable. He remembered that many of the clanfolk were better adapted to the Martian atmosphere than those who lived in Vikingville and the other cities. Sergio tried moving and felt several daggers readjust themselves across his chest.

"I think I've broken some ribs."

"If you don't move, you'll have a lot worse to worry about. We have to get over this."

Behind Haidar, a dune reached halfway to the zenith. "You want me to climb that?"

"They're coming after us," Haidar said, pointing toward the Temple. Almost convulsing from the effort, Sergio adjusted himself until he could see the view clearly. Mirror-faced Apparents were emerging from the central spire, dashing across the terrazzo. One of them had a fist projecting from his face.

"I'm not sure I can make it," Sergio said. "I'm pretty hurt—maybe you should just—"

The brother hauled him to his feet, a movement that set off an agonized fireworks display inside his chest. Strangely, though, when he was standing, the pain eased. "If you have broken your ribs, you'll feel better—less pressure of your ribcage now that you're standing. Think you can make it?"

"You risked a lot to help me, didn't you."

He shrugged, as if it was of no consequence. "I owed it to Indrani. She'd have done it herself, except there was no way I was going to let her. For some reason she thinks she loves you, priest, even after nine years. Me, I don't pretend to understand women."

Sergio planted one foot in front of the other. "What will we find on the other side of this dune?"

"More clanfolk than you've ever seen, if a few good people keep their word. And I don't think they're going to be in a party mood."

And as he spoke, something arced across the sky, from the dune's summit to the central spire of the Asymmetrist Temple. It was a weapon; a small missile, something salvaged by the clanfolk, a relic of the wars that had raged across Mars before and after the Synthesis. Where it hit, a shard of the spire dislodged and crashed to the ground, smashing through layers of underlying masonry as it fell.

"He said it'd be a Jihad," Sergio said. "Holy war."

"He was right," Haidar said. "And I think it's just begun." ○

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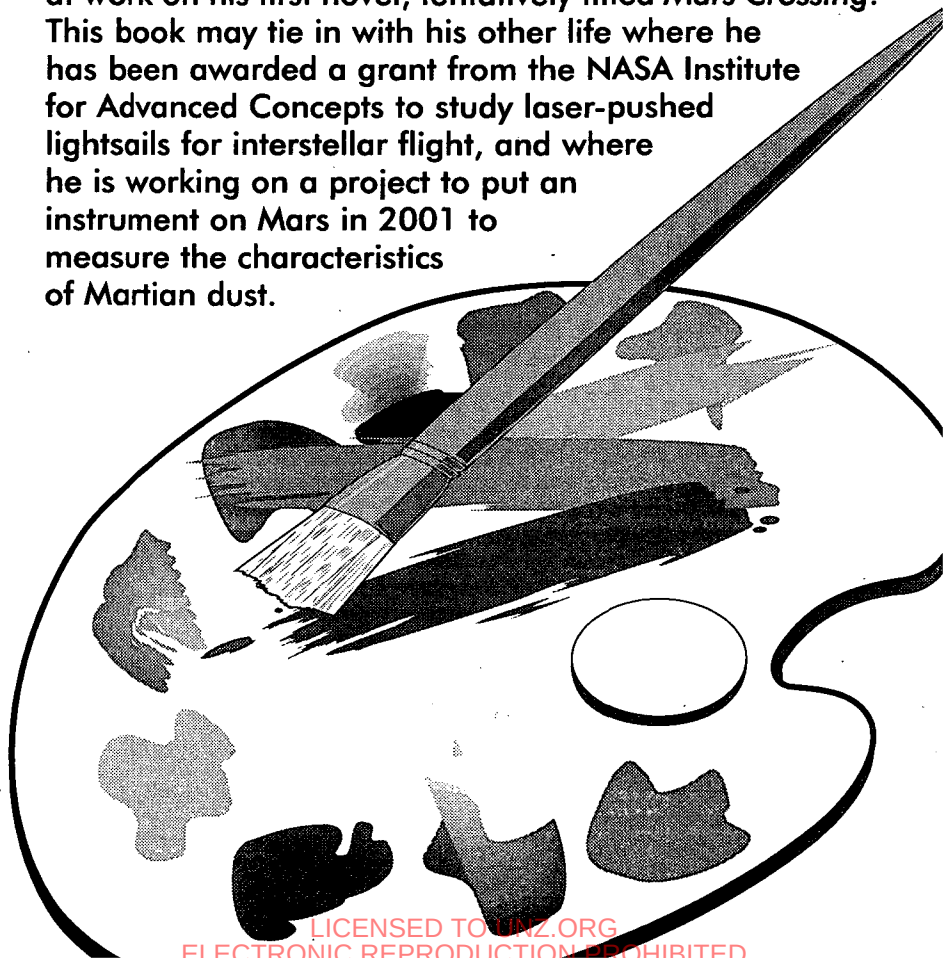


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Geoffrey A. Landis

INTERVIEW WITH AN ARTIST

With his novella, "Ecopoiesis," and his short story, "Winter Fire" (Asimov's, August 1997), Geoffrey A. Landis is currently a finalist for two Nebula Awards. The author is now at work on his first novel, tentatively titled *Mars Crossing*. This book may tie in with his other life where he has been awarded a grant from the NASA Institute for Advanced Concepts to study laser-pushed lightsails for interstellar flight, and where he is working on a project to put an instrument on Mars in 2001 to measure the characteristics of Martian dust.



You must be quite a student of art, then, if you recognize *my* name! Ach, I had my portion of fame, once, but that was years ago, when I was a young rebel, and now I am but an old man, content to be playing with my paint and forgotten by the world. —Well, maybe not entirely forgotten. I had my fame, once.

My history? Certainly, for what does an old man have to do, but to talk, and remember the past? It is so clear in my mind—the clarity of an old man remembering youth, certainly—it seems but an hour ago, as if I could open a door and walk into the Vienna of my youth, into the coffee-houses and studios, walk the narrow cobblestone streets and sit all night drinking a single cup of *melange* at Number 6 Friedrichstrasse with the comrades of my heart, long long dead, but alive still in that parallel dimension that we call memory.

I owe my career, really—not just my career, but certainly my very life, for I am sure that I would have killed myself had I not become an artist—I owe my career to a mysterious stranger. You look a little like him, now that I think back on it—the same round face, the same curve of your ears, even the same way of parting your hair.

It's odd, isn't it? I'm sure I haven't thought of him in over fifty years, and yet when I was a youth I literally believed that I had been visited by an angel, for he affected my life so strongly. I was desperate to enter the Viennese Academy of Art, you see, and when I was rejected for the second time, in 1908, I was devastated. But this man who looked so like you came to me, and we chatted, for no more than a few minutes, I swear, but he told me that he was a patron of young artists, and he himself would intervene, and make sure of my place in the Academy if I would only wait. And he went in to see the Docent, and it was just as he said: the next day I received my invitation, and I never saw him again.

Yes, I made inquiries, but nobody knew this man. It was as if he had dropped from heaven, and when he had done, went back where he had come from. His intercession on my behalf, I discovered, had been in the form of a considerable cash bequest to the Academy, released from trust on the sole condition, that I, mentioned specifically by name, be admitted into the course of study. And to this day I do not know what he saw in me. Certainly it was not my art—now, an old man, I can say that as an eighteen-year-old I was a self-important dandy, an amateur dauber with no skill and little artistic vision, no better and no worse than a thousand other high-school drop-outs with pretensions toward art.

But the Academy, as I knew it would, changed my life. For all that we rebelled against it later, Egon and I, those two years I spent learning discipline and craftsmanship molded the shape of my life. Before the Academy, I had disdained the human figure. Two years in the Academy of Fine Arts changed my views. Forever after the figure became my life, the obsession that may, in some small way, stand the test of time.

Egon? Yes, Egon Schiele was my best friend. Later, when we renounced the formality of the Academy and joined the artistic rebellion—the secession, we called it—we rented together a little studio in the south of the Mariashilfe, and there we lived and loved, argued until dawn, and painted, painted, constantly painted. We shared everything, our food, our thoughts, our canvasses, even our girls.

Ah, yes, back then there were always in our studio the girls, clothed or naked. We already had some measure of fame back then, Egon and I, if only

in the rebellious art circles of Vienna. Egon and Adolf, the young barbarians who would storm the walls of the citadel of art and rip the edifices of civilization to the ground. I was painting my series of nudes then—you are an art lover, perhaps you know the work? No? Ach, how quickly the art of one age becomes the trash of the next . . . but perhaps that is for the best. In any case, the work scandalized Vienna, my rotund nudes exposing the full feminine anatomy that the decadent and castrated classical artists of the academy dared not show. "Sarah Nude" I sent to a show in Paris. It was banned within one hour after the show opened, and that made my reputation.

With now a little money coming in, I had no need to copy and sell postcards and draw advertisements for boots and soap flakes in order to pay my share of the rent. I moved into an apartment and studio of my own. This I shared with my best model, Maria Theresa Liebenfels. Of all the many girls who passed through my studio, she was the one who came and stayed with me and shared my life.

Maria and Egon, the two great loves of my youth. Ah, I was loved, but I did not appreciate it, what youth can? They both died in the war, the first case—not of the war, no, but of the plague of influenza that followed. I had been an objector—art is above politics, I declared, youthful fool that I was—and spent a year in prison for it. After the war, my art turned more gloomy. "Love is Eternal," perhaps you know it? A skeleton embracing a young woman in the passions of love? That one was a bit famous, or at least notorious. Maria was the model for that one—painted after her death, but with every tiny detail of her body perfect in my memory. The critics called it "a perversion," "an eroticism of the unspeakable," "a lechery of death." In those years, I did nothing but paint, I barely even stopped to eat, but my paintings rarely sold.

And, in those years, the mood in Germany turned ugly, and the more evil arose from Germany, the more it fed into my art, and the darker and more grotesque my work became.

In Germany, the Nasfi party seized power—what? You don't know of the Nasfis? The National Sozialistische Fascists? How could you *not* know? The Nasfi party fanned the German hatred of Jews and communists, and I tell you the Nasfis had their followers in Austria as well. Twice I was set upon by their brown-shirted thugs and beaten, simply for the crime of having a part Jewish blood.

That surprises you? Yes, I was considered Mischling by the Nasfis, their word for anybody who could not prove pure Aryan heritage. And so I joined the resistance.

I defied those bastard Nasfis, and of all the things I have done in my life, that is the one thing I am proud of: when I finally met the ultimate evil, I stood up and spat in its face. Picasso painted his *Guernica*, to lament the loss of Spain to the fascists, and I painted my greatest work, the "Evisceration," to protest the putsch of the fascists into Austria.

Not that the bastards were so greatly opposed. The Austrian army barely bothered to put up even token resistance, and when Reichsführer Hess issued his ultimatum, I don't think it took an hour for Austria to capitulate.

When they entered Vienna, I knew that my life would not be measured even in hours if I were caught, so I went underground. The fascists burned my studio and confiscated any of my paintings left in private hands as examples of "degenerate art." I think that there is no way I can tell you how it hurt me, to leave my paintings behind. It was like leaving behind helpless

children. When my paintings were burned, the best part of my life burned as well.

I organized the resistance, operating from the mountains—I, an artist, playing soldier! I am still amazed to think it, but play soldier I did, not that I was very successful at it, who could be, against the ruthless efficiency of the Nasfis?

Isaac Goldschmied was my co-commander of the resistance, and as time after time we made narrow escapes after betrayal by false sympathizers, he came to be my lover as well. Does that surprise you? There was no one else I could trust.

You will find it hard to believe, but in those times I was said to be an inspiring orator—*me*, a short funny-looking man with a Linzer accent! But I have been told that I was more inspiring than Churchill or Roosevelt.

At last all of Europe fell, and I was smuggled out in the very last refugee boat to America. Isaac never made it out of Europe; he stayed for just one day too long. He was gassed in the camps.

No, I knew nothing of the camps until after. I knew the Nasfis were evil, but who could have imagined the *extent* of it? Twenty-five millions gassed in the extermination camps—no, I could not guess the enormity of it.

Ach, I can see from your face that I am shocking you, my friend. Yes, those were evil times. Perhaps they are best forgotten.

I will skip over the rest. Since then, I have sought obscurity. Some vital part of me was left behind in Austria. No, politics does not tempt me, not in the least. I am content to live and grow old, an unremarkable short man with a little mustache; I paint my pictures and am what I am.

You look so disappointed, my friend. Yes, I admit, it was not the career I once dreamed of having. But we never know how things will work out in the end, do we?

Sometimes—more often now that I am old—I think of the past, the loves and the passions, and wonder how it might have turned out differently. If I had not become an artist? If that mysterious stranger, my angel, had not come to divert me from my failure, and I had turned away from art, what might I have become?

But no. I could never have lived, if I had not lived for art. I, Adolf Hitler, artist, I lived, and I painted, and that is enough for any man. I am content to die in obscurity. ○

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Robert Reed

BABY'S FIRE

Robert Reed's first collection, *The Dragons of Springplace*, is out from Golden Gryphon Press. His latest novel, currently titled *Marrow*, won't be published by Tor until sometime next year. "Baby's Fire" is the fourth novella in his "Sister Alice" (Asimov's, November 1993) series that also includes "Brother Perfect" (Asimov's, February 1996) and "Mother Death" (Asimov's, January 1998). He plans to finish the stories this year. "One more to go, and I know what happens. Or at least I think I do."

Illustration by Alan Grant



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I can tell you the absolute instant when I realized I was a god . . .

I was the sole patient in a small Family-run clinic. Barely a thousand years old, and still resembling a human being. A morning of enlarging surgeries became an afternoon where I was free to start adjusting to my new self. The world was a recently terraformed pluto. Its crust had been melted with a star-drive sun, and the baby sea was dotted with floating islands of sculpted black plastic. Inside my archaic body, I went for a lazy stroll along the nearby beach, kicking the salmon-sands into the warm turquoise surf, then watching as the sand grains sprouted tails and swam back up where they belonged.

The morning's work had enlarged my senses.

Not only was I growing attuned to the spectrum in all its glory, but suddenly I could detect every vibration too soft to be called a sound, and every airborne molecule, no matter how ordinary, carried with it a vivid, delicious odor.

It was my good fortune that a whale had died—a sulfur-backed cetacean of spectacular size—and the current had thrown its carcass up on the beach. Dead for days, its blubber and muscle and deep organs were rotting in the tropical heat. I stared at that putrid mass, my new eyes caressing the elegant white bones, watching the intricate dance of a trillion trillion bacteria. Beyond the murmur of the soft warm surf, I could hear the plaintive, despondent cries of the poor whale's wife. Then because of nothing but habit, I inhaled, absorbing the roaring stink . . . and the stench was, without question, lovely. Rich and elaborate, and lovely. Without question, it was a golden, spiritual moment. Where a human would have retreated in agony, I was happily intoxicated . . . so much so that I found myself pressing my human face into the gore, sniffing again, and again, then opening wide my tiny archaic mouth in order to take a bite of that very sweet treasure.

That's when I knew what I was. . . !

When every corner of the universe smells delicious, and every sight looks beautiful . . . that's when you know that you have been changed, that you are a god, and it has come time to be exceptionally careful. . . !

—Alice, in conversation

ven caged, the Core was a gorgeous, soul-wrenching spectacle.

"Slow down, you fuck!"

Ord ignored the voice, absorbing the dust-blunted light and measuring its blistering energies, scrupulously noting every change. A fleck of sudden brightness marked a sun's detonation. Harsher flashes, quicker to flicker and swell, betrayed massive black holes feeding happily on slow plasmas and shattered worlds. According to his count, half a thousand such monsters lived inside the barricades. Along with the supernovae, they were the engines powering what had evolved, strange as it seemed, into a conventional, even proca-saic wildfire.

"Slow down," said the voice. "Give it up! Are you listening, Ord?"

Any educated soul could understand the simple business of neutrino pulses and gamma-ray emissions born from colliding masses. But what had started this blaze was more spectacular and much harder to comprehend. Even for a young immortal with an overly augmented mind, the physics that began this carnage were unreal—open-ended, exotic abstractions, comprehen-

sible only as symbols drawn on the blackest screen imaginable. Even if he had tools and the opportunity, Ord couldn't have duplicated the work himself. Not in his first attempt, and probably not in the next million tries, either. And curiously, he found that incompetence to be a comfort. A sweet blessing. Knowing he couldn't accomplish such wonders, Ord didn't feel the tiniest temptation to try.

Older, smarter gods had lacked that blessing.

In better times, half of the ruling Families had sent their bravest and best into the Core. Huddling close to an enormous black hole, they worked together, using a frothy mixture of nothingness and ego, they attempted to create a new universe.

Ord was a very young boy when it happened.

As a Chamberlain, he was the weakest, most innocent member of the greatest, most adored Family. Then one day his sister, the venerable Alice, arrived at the Chamberlain estate. A powerful, mysterious entity, she had been born when the Families were new. Taking an interest in Ord, she easily enthralled the fledgling god with stories of their great past. The Families, Alice reminded him, were founded when humanity found itself *needing* gods. Only the most suitable souls were given that honor. Their clone father, Ian Chamberlain, was a modest, even saintly man who was given the latest and best talents, and who gladly, gladly helped build what became the Great Peace.

The Peace lasted ten million years.

In that span, humans spread across the galaxy, colonizing and terraforming as they moved. Billions lived inside the Core, sharing it with various alien species. There was no shortage of living space, but shortages were most definitely coming. And the descendants of Ian Chamberlain looked hard at this problem, tapped their collective genius, then decided what was needed was a pristine new universe.

Wielding strange flavors of matter and energy, Alice and her companions had carved a tinier than tiny universe.

At first glance, their "baby" was a complete success.

But what's the use of a universe you cannot touch? So the umbilical was enlarged, and it proved grossly unstable, and, for the briefest instant, the baby's unmeasurable energies burst out into the cold emptiness of the Core.

Alice had come to warn the Earth and take her punishment, arriving just ahead of the spreading havoc. Countless souls, human and otherwise, evaporated in the conflagration. Billions more fled their homes for the safety of the galaxy's spiral arms. But the old social orders were collapsing, leaving every little world in turmoil. Alice was tried, convicted, and sentenced to solitary confinement. The criminal Families were disbanded, and their renegades were hunted down. Then the innocent Families—those who hadn't sired the "baby"—took whatever powers and wealth they found within their rapacious grasp.

The Great Peace was finished.

"You've lost, so give it up," said the familiar voice. "You crazy shit! Give up!"

Ord turned his gaze, looking back into the constricted, red-shifted past. Even in those quieter portions of the Milky Way, gods fought gods, and the tiny humans fought each other. Every glance showed him a hundred little wars and thousands of murdered worlds. Among the casualties was the Earth. Ord had watched it die. He had gone there to speak to his imprisoned

sister, and his own actions, and inactions, had helped doom their mother world. Which was partly why he would stare back along his own course, focusing on that little fleck of starlight, thinking of how humans had evolved in that star's warmth—an ape that got lucky—and of how now his species was powerful enough to vaporize an entire galaxy, if only by accident.

From behind came that angry voice. Again.

A low, low growl said, "Slow down, you fuck. Slow down!"

Ord ignored the harsh, hateful sound.

"You're pissing me off with all this running!" There was a pause, then a coarse laugh. "Stop now, little Ord. Let me grab you here. I promise, I'll kill you quickly. Neatly, and forever. Otherwise, I swear, it's a whole lot of torture before you see anything that looks like death!"

The voice was nearby.

A powerful, swift body was tracking Ord. Made more from dark matter than baryonic, it was near enough that he sometimes felt the hot touch of what passed for fingers, claws reaching out to tickle what passed for Ord's own toes.

"You damned shit!" screamed his enemy.

Ravleen was her name.

A daughter of the fabled Sanchex Family, Ravleen had chased Ord every centimeter of the way from the Earth. In their near-light-speed existence, the journey had taken weeks. While the rest of the Milky Way, watching from slower vantage points, saw two combatants locked in a wild chase that stretched across the last thirty millennia.

Ord had expended phenomenal energies.

But his enemy, designed for this exact purpose, had spent more, pressing against her own velocity-fueled mass in order to slowly creep a meter closer to him, then another meter, reaching out with her murderous hands, tickling his toes a little deeper each time.

Ravleen had been a childhood friend.

A difficult friend, true. Occasionally troubled, even violent. But those were the sorts of problems that young gods eventually outgrew.

Then Alice arrived home, and, for reasons known only to herself, she took an interest in the youngest Chamberlain. "The baby," she called him, a fond, patronizing lilt in her voice. Then, after the Core exploded, she saw to it that her own powerful talents were grafted onto his unprepared soul, and she sent him out into the galaxy, ordering him to obey his Chamberlain duty, to fight for the Great Peace.

Ravleen remained behind on the Earth, while her Family was stripped of all possessions, and their powers, and the Sanchex name.

She was bitter, naturally. Using her bitterness to fuel a terrible weapon, the surviving Families rebuilt the girl, creating a furious and brutal and barely restrained god who could destroy worlds with a thought, and who would slaughter Ord without hesitation, if she ever got the opportunity.

Rather than let Ord surrender, cheating her of her revenge, Ravleen had killed the Earth and its innocent billions.

Her fury gave her life and purpose.

Ord knew that Ravleen would never stop. Until he had died in some horrible fashion, or she died, or until the universe surrounding them had grown cold and passed away—this mad chase would continue.

"Say something, coward! Say anything!"

Since Earth, Ord hadn't responded to any insults, or Ravleen's threats, or

even those moments when she managed to touch his battered conscience. His own pain and his great shame were nothing. All that mattered was that Ord found some way through the dusty barricades, reaching the burning Core, where he would then—

Don't even *think* it, no.

Except inside his most secret places, Ord didn't allow himself that slim luxury.

"I know where you're going!" Ravleen roared, using a million channels and enough energy to sear unprotected ears.

Then for emphasis, she spat at him, a blob of coherent x-rays slashing into his weakest systems.

Ord absorbed the energies, healed most of his injuries, and what couldn't be healed was mercifully shut down and dismantled, the systems' dead mass saved as propellant for the next tiny adjustments in his course.

"I *know* where you're going," Ravleen repeated.

Do you? Ord didn't reply.

Then, with her most merciless voice, she said, "You're going into my mouth. One bloody, hurting piece at a time!"

Ord refocused on the Core. Beautiful, and horrific. And capable of wringing awe from any lucid mind. And it wasn't just the fierce fire that impressed, it was the cage that held that fire in check. With little time and desperately few resources, armies of humans and aliens, gods and machines, had built those wondrous barricades. Comets and plutos were pulverized, then refined into an especially pure dust, with the dust serving as a growth medium for nanochines that colonized every mote, replicating themselves and reconfiguring their homes, armoring the dusts and ionizing them, electromagnetic rivers moving them wherever they were needed most.

The barricades were thickest along the galaxy's waist. There the dust lay in dense and radiant crisscrossing bands, each mote just far enough from its neighbor to maximize the cumulative effects. Each was a world bristling with little machines that lived to do nothing but absorb, dilute, and deflect the relentless energies bombarding them. Who would have imagined that humans, or anyone, could have built such a vast thing? Until the Core exploded, no sane mind could have. But just a few tens of thousands of years later, there it was: The largest artificial structure ever created inside this galaxy. Or anywhere, perhaps.

Without the barricades, the Core would appear a hundred times brighter, and the Milky Way would be an empty, sterile realm out to its thin, thin edge.

But with the barricades, life could thrive even here. Floating against the glowing dust were dozens of dark blotches. Little things, usually. A light-week across, or less. Most were solar systems nestled inside their own secondary barricades. Others were simple clouds of fresh, well-rested dust, shepherded out of the way, waiting to fill any unexpected breach. The smallest blotches were outposts filled with engineers and administrators and fleets of starships ready to carry these important souls into danger, or back out of it again. Depending on their orders. On their circumstances. And on the character of the men and women who had lived for centuries on the brink of this incredible blaze.

Several of those blotches lay in Ord's path.

Not far from the largest blotch, almost unnoticed against the golden blaze,

were a pair of neutron stars. Like identical twins, they orbited in close formation, each superfluid body deformed by its sibling's gravity. If Ord held his course, he would pass a whisper more than three light-years from the pair, and in another thirty light-years he would slam into the barricades' first walls. And Physics, the greatest god, would doom him. Ord's body would lose its hard-won momentum, and Ravleen, following in his dust-impooverished wake, would gain on him, reaching out with her killing hands, then her mouths, making every violent promise come true.

For the entire journey, Ord had weighed his prospects, again and again, and now he reached the invisible mark where decisions had to be made.

"Slow down, you fuck!" screamed Ravleen. Again.

But this time, for the first time, the baby Chamberlain allowed himself the serene pleasure of shouting back at his pursuer.

"You dumb little bitch!" he cried out.

They were light-seconds apart. But the pause seemed to stretch on and on. The monster had heard him, and for a slippery little while, she was stunned.

Into the confused silence, Ord said, "Stay with me, Ravleen."

He said, "Please."

Then he used a fat piece of his reserves, jettisoning systems and talents that would never help him. What remained dove toward the twin neutron stars; he pulled himself into a snug ball, and from both of the dying suns, he stole momentum and an unexpected new course.

In every ear and in a thousand tongues, Ravleen cursed him.

With every long-range weapon in her arsenal, she assaulted both targets. The orphaned talents couldn't defend themselves, and more often than not, they were vaporized. And the heart of Ord suffered deep wounds that would take hours and precious resources to heal. But the maneuver had caught Ravleen by surprise, and she ended up on a different, sloppier trajectory, falling far behind.

Slipping past the neutron suns, Ord put himself on the best available course.

Several billion kilometers in the rear, and still enraged, the vengeful monster took herself low over the fierce surface of one sun. Then, for no rational reason he could see, she squirted out a huge gob of antimatter, letting it plunge into the sun's twin, the resulting explosion sure to cripple a few, or most, of her own systems.

What was she thinking?

In a terrible instant, Ord knew. As he saw the flash and tasted the raw light, one of his surviving systems did the fierce calculations. Those suns were already close to touching. That one tiny nudge, delivered in the worst location, had killed just enough momentum to bring them together, to kiss, then embrace sometime in the very near future.

A few weeks, local time.

For them, in the proverbial instant.

Already Ravleen was weaving a great sail from armor and coherent plasmas. When the neutron suns collided, she would ride the gamma pulse outward, regaining most of that lost distance . . . and more horrible still, everything living within several hundred light years was certain to die, or beg for its death.

Ord found himself staring along his new course, studying those little black blotches where a few million or billion sturdy citizens led their important lives.

He sent them a brief, vivid warning.

Yet he was a famous criminal, the greatest renegade of all, and some wouldn't believe his declaration of doom. Even as Ord described the coming disaster, he knew that some would suspect a trick, delay too long, and perish.

Speaking almost softly this time, obviously thinking along the same lines, Ravleen assured him, "You are an idiot."

It was all that he could do not to look back at her, throwing up his incorporeal hands as he confessed, "Old friend, I can't agree with you more."

2

A young Nuyen is approaching your district.

Named Xo, though he probably won't admit to his own name.

He is moral and good, as are all Nuyens. There is no reason for concern. But the boy is rather young, and possibly misguided, and he has a few extremely harmless talents that make him rather difficult to control.

If you do see Xo, do not speak directly to him.

Be advised. If he does make contact with you, at a distance or particularly in person, there is a small if not negligible chance that your judgment will be impaired. Security systems may also be at risk. And your memories of his visit should not be completely trusted.

Naturally, we would appreciate hearing about our little brother's whereabouts.

If you can help poor Xo remain in one place long enough for us to reach him, by whatever means, you have our blessing . . . and eventually, you will receive a financial prize based upon your hardships as well as your ability to keep this business politely and eternally confidential. . . .

—a Nuyen communication

Xo always wore a disguise.

For the last twenty millennia, he had pretended to be an empty star liner. His voice and manner were that of an AI pilot searching for paying passengers. Since few refugees remained near the Core, it was perfectly acceptable to ask the whereabouts of other ships and things that might have been ships. And since gossip is the hallmark of any social intelligence, Xo gossiped with every local AI, as well as human voices, and alien voices, and a multitude of competing and inadequate news services.

"I'm looking for two old friends," he never admitted.

"Have you seen them?" he never asked.

Yet every question was wrapped around finding Ord and Ravleen, and every word and cold number and complicated digital image that came to him was dissected for even the most obscure clue to their whereabouts.

Xo was slower than his quarry, and because of it, he was a hundred light-years behind when the neutron suns collided. His armor and distance kept him relatively safe. Steering through the piercing glare of the explosion, he survived the radiations and wild heat, slipping into a great bubble of sterilized vacuum along with thousands of emergency ships. Once more, living worlds had boiled away. Had died. But the ships ignored those corpses, streaking toward the damaged barricades.

If the Core's fires could slip through the dusts, could punch free, then many more worlds would perish.

Xo embellished his disguise. Suddenly he was an AI freespirit just glad to help, and grateful souls didn't bother questioning him too thoroughly. They let him travel deep into the barricades, where he repaired and repositioned the dust clouds, hunting for signs of Ord's passing. But there weren't any signs. No tracks of ionized plasma, no debris fields caused by a great duel. Then Xo coaxed the other ships and crews into speaking honestly. It was an ancient Brongg general, suddenly feeling drunk, who admitted seeing two masses streaking past her ship at near lightspeed, one mass following the other so closely that it was difficult to think of them as separate.

Xo's quarry were on a new trajectory, an unexpected course.

For whatever odd reason, Ord was now charging along the dusty fringe of the Core. A hundred light-year gap had doubled, and Xo had no hope of catching him, and no choice but to try catching them all the same.

The renegade Nuyen skimmed past dozens of colony worlds.

On each world, he borrowed the faces and lives of useful citizens. One night, he was a president's trusted wife. In the morning, he was an even more trusted mistress. He turned himself into various drunks and poets who could sit in every sort of public place, listening to every spoken word. He gave himself the rank and angry bearing of a notorious field marshal. With the breasts and penises of a local sex symbol, he holo-touched thousands. Plus he was a prime minister, a wealthy personality sculptor, a simpleton custodian, and, for one afternoon, everyone's favorite golf pro.

Slowly, slowly, he pieced together Ord's whereabouts.

Most guessed that the passing masses had been members of the ruling Families. Two humans blessed with the moral authority to wield godly powers. But a few worriers mentioned the renegades. The last Chamberlain and his Sanchez lover. "You know, the ones who destroyed our mother world. . .!"

Xo nodded with every face, saying nothing.

"But it probably wasn't the renegades," they would admit. "More likely, it was just a pair of Nuyens off on one of their fantastic errands."

"Do you see many Nuyens?" Xo would inquire.

"Plenty. And most are big, old, and important."

Unlike Chamberlains and Sanchezes, the Nuyens still had their good standing. Everyone knew that Xo's Family hadn't taken part in dangerous, immoral work. They hadn't tried to build anything out of nothingness. And when the disaster struck, the Nuyens had done a thorough, efficient job of holding trials for the worst offenders, then stripping the guilty of their powers and massive wealth.

Xo grew up watching the relentless march of Justice.

Like Ravleen, he was modified. Enlarged. An assortment of compelling new talents were grafted onto his young body, his tiny soul. And like Ravleen, he was employed as a weapon when the final Chamberlain returned home.

Xo's talents were subtle and peaceful, and in the end, they accomplished nothing, and he had stood by helplessly while the mother world was destroyed.

Was murdered.

Skimming along the barricades, tracking Ord and Ravleen, Xo had no choice but to fall farther and farther behind. Time was critical, yes. He could only guess Ord's plans or his final destination. But Xo remained a Nuyen, perniciously thorough, studying every problem from every angle, leaving Chance nowhere to hide.

Once, passing near a black bubble that protected a neat green world reserved for the wealthiest humans, a tiny piece of Xo dropped to the world's surface. Quietly, he acquired the handsome face and smooth reflexes of a professional golfer. His clients were trillionaires, and he confidently coached them on their swings, then took them out on a flowery course built for this one day, manipulating their swings and the wind so that the dimpled white balls flew just so and bounced just so and dropped into the cups with that delicious *ka-plunk*.

One of the golfers was a buoyant giant, both physically and in terms of his mountainous wealth. Prior to the Core's disaster, he was a minor billionaire with a fleet of aging starships. His fortune was made during the great exodus, refugees paying everything for a crowded berth, and what began as a stroke of incredible fortune evolved into an empire encompassing worlds and a fleet of swift new starships.

The man was happy, and he spent his happy days dreaming about new successes.

Xo watched the selfish daydreams, then, in revenge, made the big hands flinch, an easy ten-meter putt missed. Then, as the giant bent to putt again, Xo remarked, "I bet your ships have seen some unusual sights."

"What sort of unusual?" the golfer growled.

"Dark-matter ships. Mysterious flashes between stars. Anything like that?"

The golfer didn't belong to any Family, but he had talents that let him track his far-flung holdings. The question caused a reflexive search of records, which in turn allowed Xo to peer into that elaborate crush of files and digitals and routine flight manifests.

"How about this?" the golfer replied, unaware of the intrusion. "One of my AI captains was cutting distance, clipping the Kuiper near a red dwarf. A nowhere place, really. Except it noticed a hot spot. On a pluto-class piece of nothing. There were a few kilometers cooking at nearly 260 Kelvin, and someone had given that ground hills and trees, and on the tallest hill was a big house that looked, of all things, like the old Chamberlain mansion—"

"Wait," blurted another golfer.

"Quiet," said the first golfer. Irritated now. Looking at his peers, he said, "I was telling a story."

"What story?" asked a third golfer.

"I don't remember." He blinked. It was just the three of them, standing on the flat sunny green. Why should it be anything but the three of them? Eyes on the cratered white ball, he said, "Maybe I wasn't telling anything. Maybe I just want everyone quiet so I can make this damned shot!"

The Chamberlain mansion was a vast cylinder of cultured coral, large as the hill on which it stood and nearly as white as the snow stretching out on all sides.

Beneath the mansion were two figures. Approaching on foot, Xo thought that he understood. They were child-sized, and proportioned like children, and fighting. One lay helpless on the ground, while the other stood over him, kicking his ribs and face and up between the legs. Other than the terrific thud of flesh impacting on bone, silence reigned. A river of blood ran off into the snow, pooling in a thick frozen black-iron lake. Judging by the flow rate and the lake's considerable depth, this fight had continued, without interruption, for at least the last two centuries.

What passed for Xo's heart quickened as he approached.

The scene was lit by the Core's angry fires. The boy lying on his back, enduring that fantastic abuse, was a young Chamberlain. He had the red hair and the proper build, and those were Chamberlain teeth scattered about in glittering drifts. The other figure was Ravleen. Obviously. These had to be slivers of their original selves, Xo reasoned. Portraits left in their wake as they raced through the universe. Which made him wonder how many of these horrific little dramas lay scattered from here all the way back to the dead Earth.

Unless of course they *were* his lost friends. Finally and unexpectedly found.

If it was the genuine Ravleen, Xo was committing suicide. But he discovered that he didn't care. With a corporeal hand, he grabbed the bully from behind and gave her a hard swift jerk, and, with a thousand toxic eschers ready to attack her higher functions, he ripped away the simple child's mask, finding an unexpected face behind it.

Shaggy red hair framed a male Chamberlain's craggy features.

It was a more mature face than the one lying in the bloody snow. And if anything, it was harsher, its bright pale eyes holding a deeper, more piercing pain.

A moment passed.

Another.

Then together, with a shared amusement, both of the figures said:

"Xo."

A strange and sad laugh followed, then both apparitions told the dumb-founded newcomer, "Goodness, it certainly took you long enough!"

3

Without question, we have imagined whatever it is that the baby Chamberlain has planned . . . but we have also envisioned fifteen hundred and twenty-two other general plans, each with its own muscular credibility. Separating the single genuine drop from this ocean is impossible. All that is certain is that the baby's attentions are focused on the Core, and it is in our Family's best interest to stop him.

His motivations are secondary.

Until he is dead, that is. Safely and eternally out of our way. . . .

—a Nuyen communication

"Are you a Nuyen? Or do you just like that face?"

"I am, and I don't," he replied. "My name is Xo."

She showed him an impossibly bright smile, then, after too long a silence, she made sure to tell him, "I've always admired your Family."

"That's gracious of you," Xo replied, focusing his senses on the bureaucrat. "And may I say, I've always been fond of your Family, as well."

"Why, thank you. . . ."

She was an Echo. Until recently, Echoes were among the least consequential of the Thousand Families. Like the Nuyens and Chamberlains, the original Echo had been selected with care, augmented with the earliest talents, then cloned; and throughout the Great Peace, they had done their very small part in exploring and settling the galaxy, then helping to manage the most civilized regions.

They were pathologically cautious entities.

Echoes had no great history, no natural flair for invention or business or politics. Compared to most Families, they had been an impoverished clan, worth pity and charity and little more. Naturally, they weren't invited to work at the Core. And as a consequence, they could claim a perfect, even laudable innocence when the baby universe turned on its mother.

Their lack of ambition made others sleep easy.

This particular Echo helped administrate every facet of life in her district. She was respected by every local human as well as almost every alien intelligence. Out of respect for the Nuyen, or maybe because of local fashion, she wore the simple archaic face and body of a mature woman. Echo women were small and round. Dark everywhere but in the deep green of their eyes. With those eyes and her careful words, she admitted, "I feel uneasy. You've applied for permission to terraform a local world—"

"Is there a problem?"

"A small problem, yes." She sighed, then shrugged her shoulders. "I'm sorry to bring this up, and I don't know how else to broach the subject . . . but according to my records, you aren't supposed to be here. . . ."

"Where do I belong?"

"On the Earth," she replied. "It is your last official address."

Xo was wearing a Nuyen's body. Straight black hair. Bright dark eyes. And a simple mouth locked in a perpetually superior smirk. Through that smirk, he pointed out, "The Earth is no more."

"I know that, sir. Yes."

Xo watched the Echo accessing every available file. She wasn't particularly talented at her work, and she didn't even suspect that he could see everything in her gaze, as well as terrains of data too secret even for her.

"I was there," he confessed.

"Pardon me?"

"When our home world died." With his Nuyen face, he showed his anguish, his guilt. Unalloyed, pure. "And I don't mean that I was simply *on* the Earth. No. I was standing beside the Sanchex who killed all those billions."

"I see," she managed.

She had no choice but to believe him.

With the subtlest touch, Xo adjusted her emotions. Then, with his gravest voice, he told her, "I feel responsible for what happened."

"But I'm sure you aren't. Otherwise—"

"I'd be languishing in prison. Wouldn't I?"

She stared at him, waiting. Her home was a crystalline moon orbiting a superterranean world. The Core's fires seeped out of the barricades and through this solar system's defenses, then filtered their way to this modest, somewhat stuffy room. With those fires reflecting in her wide wet eyes, she said, "Yes. Prison. I suppose."

Already knowing the answer, he asked, "What's my official status?"

"Your Family is concerned. They've sent out some general pleas to all local administrators. With warnings attached."

"Do you want to arrest me?"

"No," she admitted. "Goodness, no!"

He showed an appreciative smile, then asked, "What are you going to do, Madam Echo? Tell me."

"I'm supposed to contact the Nuyens. And if possible, detain you."

"Do it."

"Pardon?"

"Both duties. You should do them."

She tried. An encoded transmission was sent nowhere, and when the Echo's compromised subsystems said all was well, she allowed herself to smile at Xo. A nervous, vaguely hopeful smile. "Don't leave us," she advised.

"I won't be any trouble," he promised. "My intention is to remain here and work on my little project, and to the best of my ability, keep out of public view. When my Family wishes, it can come get me."

"That would be best," she admitted.

"We have an agreement?"

The round face tightened. Finally, she told him, "There is a second problem."

"What?"

"This project. You want to terraform a local world. But as far as I can determine, you lack the most necessary skills." She winced, as if expected a fist or a blistering insult. When neither came, she made herself say, "Sir," again. "We have rules. Much as I'd love to see our little portion of the galaxy settled and green again, we have to uphold standards of conduct and craftsmanship."

"I intend to purchase the proper talents."

The green eyes grew larger. "I am so glad, sir."

Xo told her exactly as much as possible. Then with each smooth word wrapping inside a comforting escher, he asked, "Madam Echo, do you have any idea what kinds of talents I'm wielding right now?"

The eyes were too large, and in a pained way, awed.

"At any moment," he assured, "I can make any entity believe whatever suits me. I can convert her to any faith or make her discard her essential beliefs. Or I could tie her soul into an elaborate knot, leaving it tiny and helpless for the next million years."

From deep within, the Echo admitted, "I believe you."

"Two choices offer themselves. I get what I want, or I manipulate you into fulfilling my needs."

"Don't," she squeaked. "Don't hurt me."

"I won't. If you allow me the privilege of begging." Xo clasped his hands together, then knelt on the crystal floor. With a voice that couldn't have been more plaintive, he said, "I saw the Earth die. Barely yesterday, it seems like, and I can still hear the screams, and smell all that useless, useless death. . . ."

She could see his nightmare, too.

"I want to make amends, Madam Echo. In a small way, obviously. Perhaps in a pathetic way. But at least it's a beginning." Xo had never been more honest in his life, or more certain. "Let me build a special world. Here. If you'll let me, I can at least attempt to make artwork for the ages."

Quietly, the woman cautioned, "But your Family . . . it isn't known for its artistic or its terraforming skills. . . ."

"And your Family have always been frightened little shits," he replied. "Yet here you are, a despot ruling several thousand tiny worlds."

A tiny nod.

"Point taken," she whispered. Then with a drop of well-chilled bile, she added, "Sir."

"Do we have an agreement?"

"I'll be watching you, sir. Always."

"An agreement?"

Then she tried to laugh, and failed, and placing her face into her cupped hands, she said, "As if I have any choice. . . ."

4

Why do Chamberlains become such miraculous terraformers. . . ?

How can other Families augmented with the same technologies, the same proven talents, produce works that never match our better, and fall well short of our best. . . ?

Simply stated, it is because real talent isn't something worn, but it's something deeply embedded in our Chamberlain genes. And it is an integral part of our ancient, prideful culture. And it is a self-expectation held tight by each of us.

Which are all good reasons to avoid the fact that Chamberlains are the ones who most often judge what is beautiful about a terraformed world.

And what is unseemly.

And what, according to the slippery laws of possession, belongs to us. . . !

—Alice, in conversation

The world had few charms.

Sunless and metal-poor, it was a full earth-mass drifting unclaimed on the edge of the barricades. Judging by the physical evidence, someone had long ago attempted to make the world habitable, and they'd botched the job. A rugged little continent had been thrown up through the ice, its stony bones built from an artificial basalt. The toxic beginnings of an atmosphere lay everywhere as a young white snow. But the vanished terraformer had left a half-assembled sun in close orbit, which was a blessing. Plus there was enough Bose-condensed antimatter to run a modest biosphere.

Xo completed the sun, then ignited it. And to hurry the world's transformation, he injected fingers of antimatter into the frozen crust.

Ice turned to a warm, filthy ocean.

The reborn atmosphere was thick and agitated, gales slamming against the land, threatening to gnaw it down to nothing.

Briefly, Xo abandoned his world.

Twenty light-years removed from the barricades, orbiting close to a young blue-white star, was a warehouse. A sophisticated array of neodiamond scaffolding and shadow matter held every flavor of treasure, sorted and placed in stasis. Most of the treasures had been yanked from the Core before the fires reached them. In most cases, their owners were dead or unknown, and once all the pesky legalities were addressed, the property would gratefully belong to the men and women who had saved it. But there were also items left over from criminal proceedings. Talents ripped away from defunct Families. Talents that a Nuyen could rightfully purchase, or in special circumstances, rightfully steal.

"Terraforming," said Xo. "Do you have anything that can help with that?"

"No," the governing AI reported. Pointblank. "I am sold out."

Terraforming was always in great demand. Xo shrugged and turned to the other items on his enormous shopping list. Some proved available, and cheap, while many were in stock but untouchable.

The AI explained the obvious. "We're waiting for their legal owners."

"But I only wish to touch them."

"You cannot," he was told.

"Not for a simple second? What would be the harm in touching?"

"There wouldn't be any harm," the machine admitted. Then, with confidence, it said, "No harm at all."

"Then may I?"

Xo made his request, and he touched the AI's most private regions.

"Do what you want," it replied.

He put everything in his hands, then asked, "How long is a second?"

"Sir," the AI replied, "I cannot remember."

"But I know how long it is. Trust me."

"Yes, sir."

Xo assembled the treasures, then mentioned, "I have to carry everything home. I want to wrap these in dark matter envelopes."

"Of course, sir. How much do you need?"

Xo answered.

The machine had an angry laugh. But its voice was calm and reasoned, telling this most difficult customer, "That's far more than you need, and it's exactly what I have in stock, sir. My entire inventory."

"Fine. I'll purchase it."

The AI meant to say, "No," but heard itself say, "Yes."

Xo wrapped his purchases inside four envelopes. The other thousand-plus envelopes were tied behind like the tail of an invisible kite. Then for the last time, he returned to the AI, asking again, "Are you certain that you don't have an old terraformer's talents?"

The machine felt itself being manipulated. A hard touch, this time. But with a rigorous honesty, it explained, "This is a depopulated district, and terraforming is much in demand."

"Who buys these talents?"

Names flowed.

Xo had more journeys and more stealing to do, it seemed. He went as far as moving to the head of the kite tail, ready to pull the massive load back across twenty light years. But the obvious then occurred to him. Returning to the facility, he said, "All right. Show me anything that might be a talent. But it's broken. You can't get it to work well enough to even describe itself."

"There's one small something. A talent, perhaps."

"Then I'll take it, too."

"But it's quite useless. Believe me, sir."

For the fat bulk of a second, Xo said nothing.

The silence gnawed at the AI. Finally it conceded, "There's no reason you can't have it, I should think."

"Thank you."

They moved into the deepest storage berths, and while the AI's hands sorted through labeled masses of dark matter and baryonic matter, it admitted, "If memory serves, this talent comes from a Chamberlain."

Feigning surprise, Xo said, "Really?"

"One of the first renegades to be captured and tried." Hands created for this single task brought out what looked to be a long, long piece of black stone, whittled by another stone into a double-edged blade. "When she was ordered to surrender her talents, the Chamberlain managed to damage this one beyond repair."

"The bitch," said Xo.

"Exactly," the machine agreed.

With the blade held close, Xo returned to his new world.

In his absence, the gales had worsened, and the atmosphere had thickened and turned violently acidic, and worse still, Xo's arrival brought so much matter that tides were created, stirring the young ocean, its icy basement tearing loose, continent-sized bergs ready to add to the chaos.

Xo set everything in a high orbit and began to work, desperately wanting to rescue his world.

"Don't," said a quiet, certain voice.

A woman's voice, and a Chamberlain's.

The stone blade had turned into a red-haired woman, nothing but flesh and bone and the simplest of minds staring at him. With amusement, it seemed.

"But everything's a mess," he protested.

"Leave it alone," she advised.

"But my plan—!"

"Is shit," she warned. "Which isn't too surprising, considering you're nothing but a baby Nuyen."

"But I have a wonderful plan," he complained.

"Don't scare me." Yet she laughed in a fearless way, saying, "I'm here to help you. And my helpful advice is to do nothing."

Xo watched the angry white bergs rise out of the boiling sea, tidal waves sweeping over the land. Then finally, glaring at that blue-eyed talent, he asked, "Which Chamberlain did you belong to? Do you remember?"

"I guess I should say Alice."

"Alice Chamberlain?"

"Isn't that the right answer? After all, that's who I am."

5

A Sanchez is a wild bear-dog shoved inside a too-tiny cage, scared until helplessly compliant, then force fed a diet of intelligence and cold civility.

Which is the same for all of us, of course.

But you know what I mean. . . !

—Alice, in conversation

Ravleen was possessed by a glorious, perfect rage.

As she chased her quarry, always some part of her intellect practiced her hatred, making sure that it was pure, unalloyed. Anything tasting of doubt or mercy was cast away. Sometimes physically so. Any shred of her soul that didn't exist for the sake of killing Ord, preferably in a horrible, prolonged, and painful fashion, wasn't worth its mass. She would fling it away, usually toward some inhabited place, then watch the impact with a cold satisfaction. Even a kilogram of useless talent could make quite a *whump*, streaking at near-light velocities, gutting someone's comet or asteroid with a bright, bright flash.

Cleverness and stupid luck saved her quarry. On the Earth and then on the edge of the barricades, Ord had managed to keep alive, holding a very slight lead over a vengeful, righteous angel.

Which was how Ravleen thought of herself.

But she still had potent weapons and a fantastic set of muscles, and the colliding suns had helped increase her already terrific velocity. The gap was steadily and deliciously shrinking. They were still skating close to the barricades, and Ord was scared. Ravleen could taste his fear, practically. She could see it in his increasingly desperate maneuvers, watching him weave past suns and little worlds. Her quarry was using their masses to tweak his course, keeping himself near the Core. Obviously, he couldn't leave this place. Like an idiot moth, he was circling its magnificent light, and, like any moth, he would soon plunge to his inevitable death.

Frantically, uselessly, Ord tossed away his own talents and machinery—Alice's legacy—trying to gain any tiny advantage.

"You fuck!" Ravleen shouted. "You can't escape me!"

Ord said nothing.

"Give it up!" she screamed. Then, with a softer, almost patient voice, she added, "A moral being would surrender. Knowing his fate, and knowing the price of prolonging this business . . . the shit would have to give up . . ."

"What are you saying?" her quarry whispered.

"Watch," Ravleen advised.

With the equivalent of a thumb and forefinger, she flicked away a shard of worn-out armor, aiming for a passing sun. Moving at a fantastic velocity, the shard slipped past an inhabited world, missing by less than a light-second. Then with her quietest voice, Ravleen asked, "Did you watch?"

Silence.

"Did you see the big-eyed looks on their little faces?"

Then with his own quiet voice, Ord said, "You're the one who should give it up, Ravleen. You know I won't let you win. Ever."

She laughed. Cackled. At his audaciousness, she howled.

Thirteen light-years later, she threw another chunk of armor at a living world. But it was more distant, and, to impress her quarry, Ravleen aimed to miss by even less. But the idiot inhabitants—a warm, passive species who lived nowhere else—tried to defend their homeworld with a too-weak defensive network. Lasers boiled away just enough armor to hurl the rest into the atmosphere, into the crust, then deep into the cherry-red mantle. Then that tiny slice of Ravleen—a building-sized mass of hyperfiber—turned instantly to heat and hard radiation, and one hundred million perished instantly.

In agony, Ord screamed.

Ravleen laughed again. And she made certain to ask, "Were you watching?" with a mocking tone.

Yet she was sorry for what she had done.

Some secret, unexpected portion of Ravleen was angry at Ravleen.

Was grieving.

Where was the traitor? Even as she laughed at the dead and the suffering, Ravleen began searching herself, examining every subsystem and transitory thought, hunting for the rootstock of this nagging guilt. When no part of her soul confessed, she began to interrogate herself. She tortured her most suspicious areas, then as a precaution, purged every higher function that she couldn't utterly trust.

Once she felt strong again, she promised, "I will kill the next world we come by. And the next after that. And so on. Until you surrender, that's my policy."

Her quarry changed course abruptly.

Panicking, she assumed.

To help fuel his panic, Ravleen spliced together her longest arms, and she reached for him. She bridged the gap, and for a delicious instant, she could feel living parts of Ord. Then he shattered the limb and kicked it back to her, and again, somehow, he found the strength to accelerate, pressing against his own swelling mass.

Hugging the barricades, scattered according to nature as well as need, were the black hole graves of thousands of dead suns. Half-tamed and fed measured doses of matter, the black holes helped supply the fantastic energies necessary to keep the barricades in place. The nearest hole was sleeping, for the moment. AI keepsafers squirted legal warnings to the intruders, telling them, "This is a restricted zone. You are not permitted. A civil suit is assured. We very much mean business—!"

For a horrible microsecond, Ravleen believed that the Chamberlain intended suicide. Robbing her of her vengeance, in the end.

But no, he was going to miss that powerful mass.

In a maneuver old as starflight and always spectacular, Ord allowed the hole to bend his trajectory, the perfect altitude and velocity assuring him that he would rise out of that gravity well very nearly along his old course. Very nearly.

A little more than a one hundred and eighty degree spin-around was achieved. A forefinger and thumb touching at their tips, with the black hole set inside that teardrop gap. That was Ord's course. And where the fingers touched was exactly where Ravleen would be if she did nothing.

She did nothing.

Ord pulled his body into a denser mass, pushing what was strongest and least necessary to the front.

In her fashion, Ravleen did the same.

During those superluminal moments, Ravleen discovered another sick emotion lurking in her depths, unexpected and unwelcomed.

Fear.

Black and wild, and hot.

For reasons good and otherwise, the Sanchex screamed. And then came a pain greater than she could ever have imagined.

6

*A Nuyen who actually listens to a Chamberlain.
I never thought I would live so long. . . !*

—Alice, in conversation

"I found myself nearby and curious. Do you mind?"

"I do."

"If you'd rather be alone—"

"No, stay. I have nothing to hide." Xo showed a loner's uncomfortable grin, then added, "My work is rather preliminary, still."

The Echo woman nodded. "I agree."

Together, they dropped to the smooth blue surface of the ocean, and, in a small diamond-and-teak yacht built for the occasion, they sailed along the edge of the continent. Xo's guest noted that the world's gravity was stronger than expected, but she never mentioned the vast quantities of dark matter taken from the warehouse. She stared at the great reaches of raw basalt and

the occasional river bringing grit and thin muds from the interior. Occasionally, she would dive into the warm acidic water, acquiring the body of a small whale, drinking stomachsfull of the ocean, or ingesting random stones and sands.

"Nothing is alive," she warned him.

"It's too soon," he replied.

But she had a different philosophy, and she insisted on sharing it. "Microbial lifeforms are still the best tools when preparing a world. Not as fast as microchines, no. But they have a legacy and a beauty. I think."

Xo showed her a patient grin, saying nothing.

The woman clothed herself in an old-fashioned body, nothing on her warm flesh but the glistening, thoroughly sterile water. Then with too much force, she smiled, salty nipples and her wide, wide pelvis beckoning.

Xo's grin became less patient.

"Your Family is on its way," she reported. "How they learned you were here, I don't know."

"Didn't you tell them?"

"At the time, I believed so." She was intrigued. Frightened. And in surprising ways, courageous. "You probably already knew they were coming. You probably know exactly when they'll arrive."

He shook his head and said, "I wish I knew everything," and left it at that.

"What will they do to you?"

Xo studied her face, her posture. Her swirling mind. "They'll send the oldest, most powerful Nuyens available. And they'll try to gather me up."

If anything, she was spellbound.

With a whispering voice, she asked, "Are you dangerous?"

He gave a little nod. Then the wind gusted, and as he combed his hair with a hand, he asked the Echo, "Did they send you instructions?"

She started to say, "No."

Xo touched her mind, and she told the truth.

"I am supposed to keep my distance." With a gleeful thrill of confession, she admitted, "I'm definitely not supposed to be here."

"Is there anything here that troubles you?"

The Echo took a deep breath, telling him, "Nitrogen and oxygen. With argon and carbon dioxide. Rather similar to Earth's prehistoric atmosphere."

"That's troubling?"

"This is a tribute to our dead motherworld." She reminded him of his own words, then asked, "Is sterility part of your tribute?"

He said, "No."

She waited for a full explanation.

Instead, he asked, "Why should I build a living world? If it's sure to be destroyed in the near future . . . why would I act so intentionally cruel. . . ?"

"Will your Family destroy this?" she muttered.

Xo let her believe it. He stroked her mind with delicate fingers, and in the next instant, he caused her nipples to soften and baked her loins dry. When she was absolutely certain that she had no interest in him, Xo told her, "Stay."

"What—?"

"Live with me. Will you?"

The Echo made the softest little squeak, then, without fanfare or good-byes, launched herself into space, streaking for home.

What I remember was being a young girl when I saw my father for the first time. Ian, I mean. The Chamberlains' great father. Out of a world of blended races and synthetic genes, he had the hearty pale features of an unreformed European. And my first thought was that he looked old, and exceptionally tired. But then again, everything around me looked old to me . . . I was young.

I remember him telling me, "And you are Alice."

"I know that already," I informed him:

With that tired face, he attempted a smile. With an easy scorn, he said, "That's right. I've been warned about you, Alice."

"That's so funny," I replied brightly. "Nobody says much about you."

Or maybe I didn't say those words. At this point, memory and hope have become such a damned tangle. . . !

—Alice, in conversation

Finally, finally, the world was terraformed.

What was stone remained barren, lifeless. What was water still waited for its first microbe. But there was a second realm built entirely from highly modified species of dark matter—a deep ocean and a small continent with very much the same shape and textures of the baryonic realm. Whispery plankton lived in that invisible ocean, feeding on certain rare reactions, and, in turn, feeding a variety of small, slow, sketch-like fish. Then the fish spawned on the continent's shores, which was where the ghosts would snare them, using bare hands and eating their catch head first and whole.

Two hundred billion ghosts lived along the shore, sitting naked on the rocky beaches and young river deltas, making love in the perpetual darkness while quiet voices traded gossip and little else. Their intelligence was compressed. Streamlined. Alice had helped conceive their physiologies as well as this simple, sturdy biosphere. But Xo was responsible for their faces, plus everything behind their grateful eyes. Utilizing census records and security reports, surviving journals and stolen memories, he had woven a false soul for every human who had died in the destruction of the mother world. Each phantom believed that he or she was so-and-so reborn in a great sanctuary, surrounded by friends and family, and pleasant strangers, and with nothing to do but eat and make love and tell the same tireless stories about their lost lives.

Whenever visiting the ghosts, Alice insisted on sex.

And Xo complied, which the old woman seemed to appreciate. Then together they would walk the beaches, human feet treading on real rocks while their dark matter selves waded through the murmuring bodies.

To baryonic species, the Core was a thin ruddy glow.

Xo had erected a dense, many-layered barricade around his world. Excessive and exceptionally durable, the barricade's dusts let in only the most benign or determined portions of the spectrum.

But in the ghosts' realm, the sky was darker still.

A cold and seamless black.

In its natural state, the universe was dark matter contaminated with baryonic ash, and most of what was dark was utterly indifferent to the baryonic realm. Gravity was the only force shared. Only the most fierce, Core-born particles would touch the ghosts' synthetic molecules. In a sense, Xo had

built a second universe, tiny and undeniably simple, and nearly immune to the great dramas swirling around it.

To Alice, on occasion, Xo would admit that he envied these ghosts. "I wish I was as ignorant, if I could pick the ways."

With a mixture of amusement and scorn, she would stare at him, sometimes laughing, and she would assure her lover, "That's an idiot's wish."

Little remained of the original woman. In a sense, Alice was nearly as simple as the ghosts around them. Stripped of her talents and her grand intelligence, then imprisoned in a tiny cell for many thousands of years . . . the cumulative effects of all that abuse and boredom made her seem small, and predictable, and nearly unremarkable. . . .

Then she would offer an observation, or give Xo a slicing look, and suddenly he would remember who was the child.

Sometimes he asked what she had told Ord.

"Just before the Earth died, you whispered into his ear," Xo would say. Then he would delicately tickle her simple mind, trying to make it disgorge its secrets. "Why is it so important for Ord to get to the Core?"

But she wouldn't tell.

Perhaps she didn't remember why. But she knew enough to wink at Xo, assuring him, "He *knew* that you would follow us. From the moment he left the Earth, my little brother knew what you would do. Eventually."

"How did he know?"

But again, she seemed to have forgotten. Shaking her head, her red hair would chase her head like a tide. Then, with a wise, crafty smile, she would tell Xo, "It will all work out fine. Fine."

"How do you know?"

"Everything always ends up for the best. Haven't you noticed?"

With distant eyes, in the time it took a heart to beat, he counted a thousand distant wars. "I hadn't noticed, no."

"Patience," she advised.

"Patience," he repeated. Always.

Then with a wink and a flirtatious grin, she would tell him, "If you just wait long enough, every problem becomes too small to see."

One night, in the silence that always followed her blissful advice, Xo heard a whisper coming from the dark, dark sky. Barely a word, and encrypted, and probably misunderstood. Yet when he tested what he had heard, he couldn't disprove its validity. And his changing mood was noticed, Alice turning toward him, her fleshy body pressing against his narrow self as she asked, "What's wrong now?"

He was preoccupied.

Frantically, relentlessly busy.

Again, she asked, "What's wrong, Nuyen?"

Over the last few centuries, everything done was done at Ord's behest. Those two figures fighting in the snow had given him specific instructions, plus certain left-behind talents. Their instructions ended with the words, "Then wait. Wait."

Except that more instructions were hidden among those first instructions. He hadn't noticed them until now. Until that whispered word came from the sky, dislodging them.

To himself, Xo muttered, "Shit."

Alice grinned with delight, then said, "Is it my brother? Is he coming?"

"Not precisely, no." Xo absorbed the simple, straightforward plan. Knowing what he had built here, he had foreseen this possibility. But then why did everything feel like such an enormous surprise?

"What is it?" asked the ancient woman. "Precisely, or otherwise."

Xo didn't reply.

Instead, he fashioned a simple, compelling message that he sent to the Echo woman. Then he told the ghosts to fall into a deep sleep, and he brought the artificial sun out of the sky, merging it with a camouflaged stardrive already set at the world's core. Within an hour, his world was accelerating, throwing its stone and water backward at a fantastic velocity. The continent was on the leading hemisphere, and the world's barricades expanded in all directions, striking the Core's barricades first, infecting their intricate dusts with a new, more compelling set of instructions.

Xo was stealing a portion of those barricades, in effect.

Gazing straight ahead, Alice said, "This is it then. It's finally happening!"

"Back to the scene of the crime," Xo offered.

But she shook her head, and smiled, and pointed out, "That's one possibility. Out of many, many, many."

Xo didn't bother asking what she meant.

Suddenly, he couldn't be more tired of this very silly game.

A century later, the Echo's response arrived.

Xo and the remnants of his world were plunging deeper into the black barricades. The message was brief, and furious, and in a grudging fashion, thankful. The woman was sitting in her crystalline office. She said, "Thank you," as if cursing him. She said, "You shit," with affection. Then she reported, "I'm doing what you suggested. Every world and every inhabited structure in my district is being abandoned. Hopefully, there's time. Hopefully, you won't steal too much of the barricades, and we can patch the damage before other districts are destroyed. And maybe, maybe, we can keep the death toll under a few million. Which wouldn't be too awful, you shit."

Xo considered a reply to her reply.

Then he thought better of it.

The woman said, "You manipulated every part of me, didn't you?"

With a tangible, painful shame, she said, "I was helpless. I can't be blamed. What you did to me you could do to anyone. Isn't that right?"

Then the image enlarged, allowing him to see who else was in that room. Floating nearby were a dozen Nuyens, high-ranking and very certain about their emotions. The eldest said, "Xo," with a booming voice.

Then the others, speaking in a shared voice, assured him, "You are the worst monster of all. More cruel than Ravleen, easily. And even more gullible than Ord. Easily, horribly gullible. What good do you think you're doing here? What makes all this sacrifice worthwhile, little brother?"

"Your rage," Xo whispered.

And he grinned, adding, "Pissing you off. That's reward enough, I think."

*We journeyed to the Core to create a new universe.
And succeeded.*

We attempted to ease one of our own down its narrow, narrow umbilical.

And again, we succeeded.

If we made one large mistake, the whole of our galaxy would have been obliterated, and at the velocity of light, the universe would have been consumed.

But the leakage was minimal.

A trillionth of what was possible, if that.

In the grand scale of Everything, there was a tragic but enduring event quickly contained . . . and balanced against the scale of laudable accomplishments, wasn't this work of ours nothing but a fantastic success. . . ?

—Alice, in conversation

A wide, wide portion of the barricades had been ripped loose and dragged inward, leaving behind a whirlpool-like hole, two hundred light years wide and half again as deep. The Core's fires grew brighter as Ord looked downward. The stolen dust lay gathered at the bottom of the hole, squashed into a single cloud, inky black and fabulously dense, and at the cloud's tiny center was a world-sized ship that the baby Chamberlain, using every surviving eye, still couldn't quite see.

But Xo's contraption was there, he told himself.

It just had to be.

A raw bright vacuum surrounded Ord, punctuated with uncountable hazards. Stars and worlds formerly buried in the barricades had been exposed. The gaping wound itself was filling with repair vessels—modified comets and plutos, mostly—each sporting tools even more powerful than this sort of titanic work required. And lurking at safe distances were dark masses—ancient, high-ranking Nuyens, most likely—revealed only by the tweaking and twisting of the background radiations, and their encoded, conspiratorial whispers.

Ravleen remained close behind.

Since their collision, the she-monster hadn't said one comprehensible word. Her only sound was an incoherent, raging wail, and she hadn't stopped wailing since Ord's body had pushed through hers, leaving her gutted. Still alive, and still powerful, but in critical ways, crippled.

Could Ravleen fight?

There were reasons, slippery good reasons, to hope she had a few teeth and claws left to use.

Ord spent most of his mass, boosting his velocity again. Then he stared along his trajectory, trying to see what lay ahead. At exactly the point where an ambush would be easiest, he found a pluto dressed up in armor and potent EM shields. It was probably already spewing out antimatter mines and early streams of coherent plasmas. As a precaution, Ord pulled himself back into a denser, more enduring body, his surviving armors aimed at where the dangers would likely come from. Then he finished transforming what remained of himself into cold dark matter, taking exactly those forms that would be least impressed by fantastic energies.

A voice said, "Ord."

Said, "Thank goodness."

He recognized the voice instantly, and he felt a giddy surprise, realizing that it came from somewhere beside him. From somewhere nearby.

"Xo?" he blurted.

The voice sprang from a tiny, almost unnoticed mass barely one light month away. It and Ord were plunging together toward the bottom of the

hole. And with Xo's voice, it sent Ord a prearranged, deeply encrypted reply that perfectly matched his expectations.

"What are you doing *here*?" Ord asked.

And he waited.

Xo's reply was an apology wrapped in assurances and a thorough explanation.

"I'm sorry," he said, "but I was scared. For you, and for me, too. I thought you should have been here by now, and maybe you were hurt. Which you are, I see. So I let our ship accelerate on without me. I came back here with extra fuel. For you, if you need it. Do you need it? And maybe I can help fight off that bitch Sanchez, or at least make her quit that damned screaming!"

"Come closer," Ord told him. "If you've got power to maneuver, come here."

The mass obeyed. A light-month's separation was gradually halved, then halved again. The pace of their conversation lifted accordingly.

"You look like hell," Ord heard. "But it's so good to finally see you, friend!"

"I feel like hell," he admitted. "And it's a wonderful surprise to see you."

"Everything has gone perfectly here. Nearly." His companion told him stories about his long search for Ord, and the Echo woman that he had used, and the carefully refitted world, now starship. Then he thanked the baby Chamberlain for leaving behind those talents that allowed him to complete his vital mission. "We're on our way!" he concluded. "Straight on into the Core. All the way!"

"All the way," said Ord.

Then the astonished, worshipful voice said, "I have to ask you, Ord. If I hadn't chased you exactly when I did, leaving Mars when I did . . . and if I'd made even one little wrong turn . . . I wouldn't be here now, waiting for you. . . ."

"How did you know what would happen, Ord? How?"

"Didn't she explain it to you?" Ord asked.

The voice admitted, "She didn't, no." Then it asked, "Are we talking about Alice? Because I can't seem shake any specifics out of her. You know, she can be awfully stubborn, when she wants to be. . . ."

Ord laughed loudly, then asked, "Are you lovers?"

The voice said, "Yes."

"Tell me," said the baby Chamberlain. "What's the exact pattern of freckles on her favorite face? The face she shows you when you make love?"

Without a shred of hesitation or self-doubt, his companion sent him a map of that face. Precise, and thorough. Exactly like the Alice once imprisoned inside the Earth, which made it utterly wrong.

In front of them lay the Nuyens' careful trap.

Ord manipulated his course a last little bit. Then he looked back at Ravleen, and with a quiet, thoughtful voice, told her, "I'm letting them kill me. The Nuyen sneaking up to me, and that ugly pluto. At close range, working together, they'll be able to obliterate me. And what do you think about that?"

The she-monster's wail rose to a higher pitch, then stopped.

For the first time in ages, Ravleen was silent.

With a child's voice, Ord asked, "Do you remember when we were children, Ravleen? When we played together in the snow?"

Ravleen was manipulating her own body now, marshaling her weapons and redistributing her armors.

"Do you remember snowballs, Ravleen?"

Ord spun a ball of white ice, exactly the size that a boy's chilled hands

would fashion, and after wrapping the snowball in a secure stasis field, he flung it back at his pursuer, watching its whiteness vanish; then, as it smacked against Ravleen's armor, there came a bright soundless flash accompanied by the inconsequential soft glimmer of heat.

I was a little girl, and for a year or two, or three, my best friend was a Sanchex boy.

He was older than me by several decades. Because of his age, he was rich with strength and with difficult wisdoms. Using nothing but stone and wood, plus metals that he smelted himself, he could build an array of powerful weapons. Like every Sanchex, he was an avid hunter, provided that his quarry was powerful and intelligent and capable of inflicting tremendous pain. He taught me to hunt. To track or to ambush, and to kill efficiently. He would smile and tell me that I amused him, that he'd never known a Chamberlain who had a taste for blood sports. One day, he smiled in a different way and told me to bring my favorite weapon along with a short length of locking cord.

"Tonight," he said, "we're going into the Canyon of Lush. To hunt sabercats." Then with a wink, he added, "I think you're ready, Miss Chamberlain."

But I wasn't ready, of course.

He decided on a glade sure to be lit by the green light of the moon. I secured one end of the cord to a substantial rock, then began fitting the other end around my left ankle. I would be the bait; that was my usual role; the cord was a symbol, and if panic took me, it would keep me here a moment longer. I reached the point of putting a knife to my wrist, preparing to send blood scents out into the evening air. But the Sanchex said, "Wait." He laughed and unfastened the cord and said, "Tonight, I'm the bait. And you're the one up in the blind."

I was honored, naturally. And terrified. And absolutely certain that when the moment came, I would do what was necessary.

What was right.

A giant male sabercat tasted the Sanchex's fierce blood immediately, then spent hours circling the glade, sniffing and watching, knowing perfectly well that this was a trap, yet intoxicated by the simple idea of consuming one of his godly owners.

When the attack came, I felt alert. Focused. Utterly ready.

But as I stared down at my bleeding friend, down into that pool of green moonlight, the cat scaled my tree—in one graceful bound—and slashed into my blind, four white sabers sinking into my chest and belly. Instead of misery, I felt the warm, almost pleasant numbness that comes to any hapless victim. I never heard the discharge of the Sanchex's weapon. But I was aware of falling, and tasting blood not my own . . . and then my good friend was kneeling over me, laughing at me, telling me, "You should see the expression on your very stupid face. . . !"

—Alice, in conversation

Ord watched his snowball burst against Ravleen.

Instantly, she responded with twin shots, each infinitely more powerful than anything he could have mustered. One blast of coherent plasmas missed Ord by almost nothing. The other was focused on the Xo pretender.

Together, those terrific sums of energy caused the she-monster to lose momentum, the distance between them doubling, and suddenly they were following separate trajectories as they plunged deeper into the great hole.

The Nuyen absorbed the second blast. Armor was splintered, then scattered. What passed for flesh was seared, falling away from a skeleton that writhed in agony. A great sweet scream rose, piercing and wildly frightened. Then the scream fell away, gradually, gradually, a thin dying voice buried deep inside its dying roar.

"Ord," the boy heard.

"We know what you want," the Nuyen promised. "And it isn't possible, what you want. It's just another one of Alice's shitty jokes . . ."

A trailing blast struck the Nuyen.

With a clean bright flash, everything that resembled a voice was extinguished, and the vacuum filled with hot ash and a blue-white glow.

"No!" someone else screamed.

Ravleen, he realized.

"You promised me!" she shrieked. "A million times, you promised! No one else can have that Chamberlain fuck but *me*!"

The armored pluto was a warm point of light almost straight ahead. And then it was brighter, Ravleen's first blast reaching it, its surface melting and then boiling away as the plasmas found every weakness, cutting into the mantle. Great geysers of methane and water exploded outward. Stocks of antimatter burst free of containment, then detonated, lifting the mantle off the melting core. But the weapon arrays had already taken shots, and enough plasma cannons and gamma-ray lasers survived to send off new volleys. As Ord approached, he was struck. A peppering of wild energies left him stripped of armor, then reached deep enough to make him wail with his own incandescent agony.

Again, Ravleen cried out, "Nuyens! You promised me!"

She fired again, fired backward, aiming at those faceless dark masses that were following them, and increasing her velocity again, slightly.

A dozen ancient Nuyens were wounded.

Butchered, and killed, and their pieces fled from the battlefield, trying to find somewhere to die in peace.

Ord jettisoned his ruined armor and organs, flinging them backward, watching each impact against Ravleen's great body.

At the bottom of the great hole, where the barricades were thinnest, the tar-black ball of dust was moving faster by the instant, and, as it accelerated, it compressed itself into a still tighter, more durable mass. The timing would be tight, at best. Ord sensed it, then made delicate calculations that stretched out for thirty digits that proved nothing but that this was one astonishing longshot, and if it failed, he had absolutely no reason to feel surprised.

Behind Ord, over the course of decades and light years, a great battle raged.

The Nuyens fired at him, but Ravleen was near enough and large enough to absorb the worst of their blows. She wouldn't allow anyone else the pleasure of his death. Besides, she inherited momentum from those terrific hits, letting the Nuyens' blows bring her close again, close enough that again she could tickle Ord's bloodied toes as they rushed together toward that receding target.

One of Ord's brothers had taught him a little trick once.

He used it now. He pictured himself with a child's body, shredded clothes

and assorted gaping wounds decorating his corporeal flesh. The cold vacuum became a deep, deep snow, white and featureless, and he drew himself climbing a long steep angry hill, in the night, desperate legs carrying him toward sanctuary.

Ord looked over his shoulder. Like him, Ravleen was badly bloodied, her black hair streaked with gore, that perpetually strong, strangely lovely face as grim and certain as any face could be. He could practically hear her thoughts, the endless rage compounded with a fresher, more urgent despair. Then he looked forward again, up the long slope. On the summit was a cylindrical object much like the Chamberlain house, but blacker than any night. It was his goal. His only thin hope. But the structure seemed to pull away, burrowing through the last shreds of the barricades, and, as its velocity increased, Ord found it harder to close the huge horrible gap.

The hill grew steeper; the snow turned to a milky ice.

Around the sharp fringes of the house, a light emerged. Blistering, blinding. The barricades were finally punctured, and the Core's fires were flooding into the galaxy. Ord bent low, keeping himself in the trailing shreds of shadow. And Ravleen screamed and bent even lower, using his body to help protect herself.

Together, they halved the distance to the black house. But the pitch of the hill more than doubled, and his legs turned impossibly heavy.

Behind him, the universe was consumed by flame.

Worlds burned, and vanished. And brave souls perished, yanking at the edges of the barricades, trying to close the gaping hole.

Ord found the energy to cross another half-meter of ice.

Ahead of him, just out of arm's reach, was a door. Save for its blackness, it was utterly familiar, fashioned from living corals and with the PRIDE AND SACRIFICE emblem set above it—the Chamberlains' one-time motto.

Ord's feet kept running. But like some terrible dream, he couldn't conquer so much as a finger's width of new ground. The steep hill had become a vertical cliff, and the ice was infinitely slick, and his velocity perfectly matched the great ship before him, nothing left inside his entire body that he dared to spend as fuel.

Ord, the inheritor of Alice's talents and great powers, was little more than a child again, streaking deeper into a hellish realm.

Because this was just an image—a symbolic estimate of what was real—he stopped his feet and turned his battered self, looking back at Ravleen. It always surprised him how infatuated he was with that simple face. Severe, and furious. Incapable of love or the smallest charity. And yet . . .

That lovely wild face grimaced against the fierce glare.

Mutilated hands reached toward him, wrists thickening with muscle and the surviving fingers growing long and razored and probably poisoned claws.

"You can't reach me," he screamed, not knowing if that was true.

But it was. Even after such an enormous chase, Ravleen was still a light-second or two out of range. The hands stopped short by what seemed like centimeters, then collapsed back into the body. Then Ravleen spun some elaborate calculation, and in response, she began to manipulate her form again; and Ord, watching her slow, purposeful metamorphosis, knew exactly what she was doing, and guessed how long it would take, and he turned again and read PRIDE AND SACRIFICE, then quietly said, "Xo."

He said, "Alice."

In a whisper, he announced, "I'm here . . ."

At some watershed in your evolution, you will apprehend that cleverness is everything. That if a godly soul is sufficiently ingenious, it can achieve what simple moral goodness and pure selfishness cannot achieve, ever.

Naturally at some later point you will be sickened by this awful insight.

Perhaps in the very next instant.

Although in my case, quite frankly, I'm still waiting for that instructive and most delicious horror. . . .

—Alice, in conversation

"I'm here," Xo heard.

Barely.

The Core was a furious maelstrom, ionized gases and plasma jets punctuated with dying suns and world-sized blobs of boiling iron. A wild, white EM roar fell from everywhere, telling Xo next to nothing. He felt half-blind and nearly deaf. The great ship was still maintaining its course, plunging for the Core's center, shouldering aside the debris and radiation. But as it went deeper, the hazards thickened. The protective envelopes of dust were eroding. A red dwarf star passed nearby, tides tugging at the dust, leaving a gaping hole that he patched badly, moving part of his dust reserves and sealing the breach with his quickest, sloppiest hands. That's what Xo was doing when the whispering voice announced, "I'm here," and that's why it took him several moments to respond, eyes focusing on the source of that very tiny voice, staring hard at a point in space that slowly, slowly, revealed something that might just be another starship, or an exceptionally tiny Chamberlain.

Xo almost spoke, then saw the larger trailing shape.

From it came a second voice, loud and at least as furious as the Core itself, screaming out, "And I'm here, too. You fucks!"

Ravleen was just inside the ship's shadow, its umbra, protected from the worst of the radiation. Moment by moment, her shape changed, transforming itself in complicated ways that Xo couldn't decipher, and that left his instincts begging him to panic.

"Alice?" he whispered.

"What's wrong?" she replied.

Xo found her lying naked on the dark-matter beach, toes dipping into the dark-matter sea. The ghosts flanking her were chattering with excitement. Their black sky had filled with a dim ruddy glow—the Core's fantastic energies were just visible—and sometimes the ghosts could feel the tickling touch of high-energy particles. Their faces were nervous and happy, and more than Xo had ever seen, they were smiling. Alice was smiling, too. But it was a different expression. Sober. Scared. Unsurprised.

"Has Ord found us?" she inquired.

"Yes."

Then before he could explain, she asked, "Who else? That Sanchex girl?"

"Right behind him, still. Always." Xo nodded glumly and looked between his feet. The baryonic meat of this world had been ripped away. Used as fuel, and left behind. All that remained was the dark matter skeleton and the star drives and just enough antimatter to power the systems that kept their dust shields in place. He gave Alice the eyes to see their visitors, and, after a moment's contemplation, he confessed, "I don't know what to do. Your brother didn't leave instructions."

She lifted her face, not smiling now.

"Maybe," she said. "Just maybe, Ord guessed you wouldn't need the most obvious instructions."

He absorbed the criticism without complaint.

"If you were in his lousy place," she asked, "what would *you* hope for?"

"Help," he admitted. Then with a shy wince, he asked, "Is that the answer?"

"To many circumstances, yes." The simple, ancient woman told him, "Help" is a perfectly good response."

With talents and ample fuel, Xo eased his way back toward the baby Chamberlain, slipping through dense blankets of stolen barricades with a minimum of disruption—for the ship's sake as well as to hide his own shadowy presence.

Every few seconds, Ord whispered, "It's me."

He sounded small. Exhausted. And absolutely terrified.

Even in the umbra, the radiations were blistering. Piercing the last ragged layers of dust, Xo began to reach for Ord, then, at the last moment, hesitated. What if there was no Ord? What if Ravleen, or some other demon-agent, was offering this body and scared voice as bait? But if this was a trap, then Xo was already the fool. Doomed, and dead. Which was why he kept extending his hands, and after them, his tentative soul.

Mutilated fingers were waiting for his hands.

Xo felt their embrace, then found himself drawn into a false, familiar landscape. The black mansion stood behind him, and Ord knelt beneath him, his boyish little body in shreds, every limb shattered, and a matching voice asking, "Did you give up on me?"

"I didn't," Xo replied. "Since I never believed in the first place."

A thin little laugh.

Then Ord whispered, "My sister?"

"Is well. Is waiting for you."

"Who controls the ship?"

"She does. At this distance, I couldn't react fast enough to keep the shields intact." With his own talents, Xo embraced the boy and began making repairs. "Once you're strong enough," he promised, "I'll carry you inside the shields. I built a durable little world for us. I'm eager for you to see it."

In a particular way, Ord said nothing.

Xo said, "What? What's wrong?"

A Chamberlain face stared at him. Except for the architecture of the bone and flesh, nothing about it reminded him of Alice's face.

Again, he asked, "What's wrong?"

"Ravleen."

She was still transforming herself. On this false landscape, she looked like a tall, tall human, limbs tied into some elaborate knot. Against the raw light of the Core, she resembled a vast machine designed for a single, obvious purpose.

"Ravleen's sculpting herself into a single weapon," Ord warned. "When ready, she'll kick herself out of this shadow, and she'll feed on all that wild free energy out there, and just before she bursts, she'll fire. Once. Killing us and everything—if we let her."

"We won't let her," Xo muttered. But when there wasn't any agreement, he changed topics. Quietly, secretively, he told Ord, "Alice told you something."

Something about the Core. Then you left the Earth, and eventually, I followed you. You knew I couldn't stay loyal to my Family. Somehow you understood that I'd do whatever you asked. Without complaint. Which I did, and it proves my loyalty. Doesn't it? So tell me. Why? Why all this expense and trouble? Why are we pushing our way back to that baby universe? Its umbilical has been closed. We can't get inside . . . can we . . . ?"

"No," the boy agreed. "We can't get inside."

"Then why go there?"

Now he looked like Alice. A sly delight came into the blue eyes, then the narrowing mouth. And with an encrypted tongue, he suggested, "Maybe the Baby isn't our destination. Have you ever considered that?"

"Then what is?"

"No," said Ord.

He said, "I need you to do one more favor for me, Xo. Will you?"

Like always, Xo promised, "Anything."

"Can you still manipulate minds? Because I need Ravleen's mind teased, and her thoughts bent in just the right way—"

"I can't," Xo replied. "That pissed-off will of hers is too simple to defuse."

Ord nodded, sighed.

Then with a Chamberlain's gift for the unexpected, he said, "I didn't make myself understood, Xo. I'm sorry. What I want is for you to make certain that she attacks me. With all of her hatred, please . . . can you do that for me. . . ?"

11

We were infinitely clever souls laboring on the nearly impossible task.

A task laced with danger.

Eager for disaster.

But since we were so clever, we could see the obvious way to avoid every pitfall. And all it required was doing a second, equally impossible task. . . !

—Alice, in conversation

The Nuyen's voice was soft, and close.

"We need to speak," he told her. Then he said, "Ravleen," with a traitor's too-friendly tone. And when she failed to respond, the Nuyen added, "We've been fooled. Fucked. It's not the Core that he's chasing. Ord just admitted his real goal to me."

She could see the Chamberlain plainly. Battered, but healing. In a very little while, he would be strong enough to pull himself inside the dust barricades. And just before that happened, Ravleen would fall back and eat the Core's vast energies, then incinerate the little prick once and forever.

"Can you hear me, Ravleen?"

"No," she growled.

"Alice and the other criminals . . . do you know what they did. . . ? When they grew that baby universe, they grew something else, too. Using the same talents, the same impossibly strong exotic materials. Do you understand, Ravleen?"

"I'm not an idiot!" she roared.

"Yes, you are. We're both idiots here."

Ravleen examined herself, expecting to find signs of Xo's dangerous touch.

But nothing in her mind was amiss. Nothing about her resembled doubt. Nothing threatened to impair her pure hunger for vengeance.

"Look at me, Ravleen."

Xo had maneuvered to a point not quite between her and her quarry. Her remaining senses saw talents and unspent fuel, but no weapons that could destroy or cause injury. Yet just to be certain, she told him, "Hold your distance."

"I will," he promised.

Suddenly the great orb of black dust changed course, slightly slowing its motion. Obviously, this was the beginning of some desperate scheme.

"Alice and the others grew a wormhole," said Xo. "Or rather, they yanked a natural wormhole out of Planck space. Out of the quantum foam itself. Then they inflated it and strengthened it enough to be stable, and, because they didn't want just anyone using it, they worked hard to camouflage their little friend, creating what for the eye and the mind would look like every small, anonymous black hole.

"That was before the baby universe was born, Ravleen.

"One end of the wormhole was sent away. While the other was permanently rooted in their time and their space. If disaster struck, some future soul could come back and give a good strong warning. Then the Chamberlains and the Sanchexes would know not to risk building their baby—"

"I don't believe you!" Ravleen cried out.

As if he heard nothing, Xo continued. "That's what Alice told Ord. Just before the Earth died, she taught him where to find the wormhole and how to use it. And that's why we've come here. Like always, the Chamberlains found a way to cheat Nature. . . !"

Ravleen felt her rage swelling.

She didn't doubt that the emotion was genuine, and necessary, and timely.

"Let him go," the Nuyen purred, "and the Core is saved. The Earth never dies. The Sanchexes remain a powerful Family, and your life is as ordinary and as splendid as you once imagined it would be."

Abruptly, the baby Chamberlain started to move, crawling his way slowly toward the protective dust.

Seething, Ravleen cried out, "No!"

Like a syrupy fluid, the dust moved in front of Ord, pulling aside to create a tiny hole. A doorway. Beckoning to him, no doubt.

Again, "No!"

She slowed herself, and, before she was perfectly ready, Ravleen fell out of the shadowy umbra, into the searing radiations, her vast new surface absorbing the energy even as her flesh shredded into microscopic pieces. The simple brilliance diminished her senses, but she didn't lose track of Ord. The Nuyen, though, had vanished. Where was he. . . ? She searched the umbra, then the surrounding maelstrom, and, just as she found him, Ord tried to run for that tiny hole—

Somehow, Ravleen's anger found the strength to swell again, her rage clean and brilliant, and sweet, and perfect.

With a wild screech, she spat all of her carefully gathered energies at her nemesis, gutting herself in the process . . . a great numbing pain surging through her . . . her last few eyes watching in horror as Ord, knowing exactly when she would fire, leaped aside and allowed the fantastic cake of gamma radiations and plasmas to pass, entering that new hole and vanishing, then impacting on something set at the orb's exact center . . .

Xo's great ship had been destroyed, at least.

And Ravleen was still alive. Barely, but enough to crawl back into the protection of the umbra, and with a weak happy voice, she told the Chamberlain, "You're still screwed . . . deep inside the Core, and your ship left as shit—"

The dense dust began to glow in the infrared, absorbing a wild array of unexpected, unexplainable radiations.

A voice, familiar and much too close, whispered, "Vacuum fluctuations."

Told her, "Coming from the wormhole."

Explained, "Your hammerblow uncapped it, and now every photon that enters the hole is magnified. Doppler effects. Doubling effects. All the ugly feedback dangers that make this work so difficult. . . !"

Again, Ord leaped sideways.

Then he plunged into that little hole.

To Ravleen, with a wary delight, Xo said, "Thank you. We could have done this ourselves, but you made it much easier."

Then he pulled away, entering the same gap in the dust.

Ravleen wasn't too stupid to know that she was stupid. A fool from the beginning, and for a slender delicious moment, she was glad that she would die now. But then some little talent—more instinct than conscious thought—found a simple, workable answer to this damning mess.

In a wild instant, she stripped herself to nothing.

Very nearly.

She peeled away her exhausted limbs and charred flesh and all of her surviving senses, then, desperate to become even tinier, she abandoned her cherished anger. Suddenly simple and small as a newborn, Ravleen flung herself forward with exactly as much force as possible, accelerating her tiny form toward that shrinking hole, too blind to see even the searing white light that was climbing up to meet her.

12

I know stories.

Of course I can't remember which stories are true. Or indeed, if anything I say has the tiniest toehold on fact. What matters is that you believe me. What matters is that I believe me. What matters—more than anything matters—is that the universe itself, in some fashion or another, believes what I hear bubbling out of my little mouth, then acts accordingly. . . !

—Alice, in conversation

The dense sphere of hyperactive, ultraloyal dust fulfilled its crude purpose, absorbing the furious radiations as they boiled out of the freshly uncapped wormhole.

And what the ball couldn't absorb, it transmuted into more benign forms.

Then limits were reached, and the sphere abruptly split wide, the explosion brighter and far hotter than any supernova, and, thankfully, quicker to fall away again. Alice and her phantom friends rode out the blast, then watched as the sky began to darken again, returning to the blood-colored glow that was, in her friends' eyes, the Core's expected appearance.

There was little left to be done.

Alice was free to walk the edge of the continent, following its beaches and low cliffs, quietly speaking to her two hundred billion companions, who saw

her as a shadow and heard her as a whisper amidst their gossipy talk. Ignoring the gossip, she would tell the entire glorious story, from its arbitrary beginnings to that obligatory final scene. Then she would begin again, knowing perfectly well that the ghosts wouldn't remember it after one telling, or twenty. Or even after twenty million trips from beginning to end. But simple pride and the sound of her own familiar voice served to keep her company, and perhaps most important, to fill this sudden unnerving wealth of time.

"I took our ship's helm and moved us," she reported. "At the very last moment, I spent the last of our fuel, slowing us just as we approached the wormhole. Since before the Core exploded, the wormhole has been moving daisy-fashion, skimming past suns and genuine black holes in order to remain here. In hiding. Then I opened the bow's dust in order to engulf that wormhole, and I forced our little dark world to dance with it, its apparent mass helping fling us in an entirely new direction.

"We're moving perpendicular to the galaxy, my friends. Racing out into the ultimate cold. Our stardrives and other machinery are ruined. And left behind. We have only the barest residual capacity to make energy. But then again, how much power does a world of ghosts require?"

Asking that question, Alice always paused, giving her audience a long opportunity to offer answers. Right answers or wrong, it didn't matter. She only wanted some sign that another mind was finally, in whatever pitiful form, awakening.

She ended the silence, always, with a bold warning.

"We are doomed, my friends. Utterly, eternally doomed. If the baby Chamberlain is successful, our very existence will evaporate. Depending on your personal reading of quantum gravity and the true nature of time, we might very well have already been erased. And everything you see here is exactly what nonexistence is in the first place.

"Or if something goes wrong for poor Ord, we continue on. Out of the Milky Way entirely. Haunting the deepest regions of space until finally, as our meager energies fail and our false molecules fall to pieces, we perish.

"Together, we will perish. I promise you!"

Then, for a moment, Alice would stop walking, staring at the vague faces and bodies, unable to remember even one of their names.

At that point, the same furious insight would pounce on her.

Suddenly she would ask herself: What if the universe—this glorious and inflated and utterly spellbinding creation—was the same as this little ghost world? What if Reality was some clever soul's device built with whatever tools were available, its creator trying to model something much grander, and, in some great tragedy, lost?

That would explain why so much of the universe was dark and simple, and why the universe, given all this space and all this time, insisted on repeating the same prosaic building blocks—the galaxies, the stars, and the twisted, tragic souls.

That would explain everything.

Just contemplating the possibility made Alice shiver.

Then, as Alice began to walk again, telling her story again from its arbitrary beginning, she would always feel fortunate that she was too small and much too stupid to ever answer such a grand question.

Some things, even the Gods don't know. ○

MUTANTS AND CROSS-OVERS

WAITING

Frank M. Robinson

Tor, \$23.95

ISBN 0-312-86652-6

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Roland C. Wagner

Fleuve Noir, 69 francs

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Jeffrey Ford

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There is something in the fin de siècle air, an obvious odor of something rotten in the state of SF publishing, but also the whiff of a major paradigm shift blowing in on the winds of change emanating in true science fictional fashion from the other side of the coming millennial divide.

There has been much hand-wringing at the discovery that the age of the average SF fiction reader is rising, that young people are not turning to the reading of SF in the numbers they did at the height of its popularity, and that the circulation of SF magazines has been in a long

slow decline for some years now. And there have been declarations that Something Must Be Done, and various suggestions as to what that Something must be, ranging from proselytizing by SF writers in the schools, to SFWA creating SF reading lists for youth, to the revival of juvenile SF lines, to actually dumbing down the content of the adult magazines to the supposed level of adolescent readers.

All of which seems to me to be missing the gigantic central point—that SF is a subset of fiction and SF publishing is a subset of the publishing industry and what is happening within the SF microcosm is therefore a subset of what is happening to the larger macrocosm.

And in the larger macrocosm, the publishing industry is in deep structural and technological crisis, and young people have been reading less and less of everything for a long time now.

That the reading of fiction for pleasure has been a declining taste among youth for a decade and more has been obscured within the previously cozy confines of the SF microcosm by the co-existent trend for more and more of what young people *were* reading to be SF.

In other words, as far back as the 1970s, maybe even further, SF was gaining an ever-growing share of an ever-diminishing youth market for fiction.

Thus the pedagogic vogue for the teaching of SF in schools and colleges of the 1970s and 1980s, the general idea being that while SF might not be true literature, at least it was something the kids *did* read

voluntarily, and through the teaching thereof they might be inculcated with a taste for reading that would through time and maturity evolve into a taste for "better things."

In the 1990s, the notion that reading fiction was not only a pleasure but a pleasure that one might actually pay money to enjoy continued to lose currency among young people, even as their general level of literacy continued to decline.

But paradoxically enough, the youth market for "SF" soared to ever-increasing heights.

The youth market for "SF."

Not for science fiction.

Not for any kind of fiction.

Which brings us to one of the main largely unexamined roots of the crisis in publishing in general, not the conglomeratization of book publishing houses or the emerging distribution monopoly in flagrant restraint of trade, about which much has been written, but the technologically driven disappearance of the *raison d'être* and economic viability of so-called "popular fiction."

The French, in their cynically realistic manner, have a better name for it. "*Littérature de la Gare*," they call it, the stuff to be found in the racks in railway stations.

In days of yore, before the advent of either television or paperback books, "popular fiction" meant the pulp fiction magazines, sliced up into formulaic genres—science fiction, mystery, exotic adventure, romance, and so forth—and marketed to a rather low level of literary sophistication with garish and lurid packaging.

Before television, such popular fiction served an important cultural function as entertainment for the masses; in those days reading popular fiction was a central source of entertainment for a far larger proportion of the population than it is

today. Young people. Relatively uneducated people. People of less than average intelligence. Immigrants learning the language. People whose reading level might be fairly minimal by sophisticated standards. For example, English was not my grandfather's first language and he didn't read it all that well, but he avidly devoured westerns written in it anyway.

When paperback publishing emerged after World War II, it developed along two different conceptual lines, a bifurcation perhaps not pondered as often as it should be.

On the one hand, paperbacks were conceived of as inexpensive and therefore more widely affordable reprints of hardcovers. On the other hand, paperback originals became the dominant publishing mode of "popular fiction," to the point that by the turn of the 1960s, aside from a few "true confession" romance magazines and one or two mystery magazines, the only popular fiction magazines left were the science fiction magazines.

The science fiction magazines were the primary survivors of this pre-paperback popular fiction because long before they came to face rack competition from paperbacks in the 1950s, under the guidance of charismatic and committed editors like John W. Campbell, Anthony Boucher, and H.L. Gold, they had at least struggled to transcend their roots in "*Littérature de la Gare*." A struggle that became a full scale cultural war in the New Wave 1960s, and which continues in attenuated form even today, as witness the dichotomy between the fiction in this very magazine and the packaging thereof.

Because of the peculiar evolution of science fiction, because of the rise of an "SF community," because there still *are* SF magazines, we herein tend to miss the fact that

television has killed "popular fiction." Not that we are alone. The book publishing industry hasn't gotten it either.

But a moment's thought should make it obvious.

People with low reading skills no longer make the effort to read fiction for pleasure.

Why should they struggle to read "popular fiction" to keep themselves entertained, let alone fork over money to buy the stuff, when scores of channels of much the same level of story sophistication are available twenty-four hours a day for free on the tube?

And because people with low reading skills can now entertain themselves effortlessly and for free with televised popular fiction, unsurprisingly enough fewer and fewer people are motivated to polish their reading skills in order to be able to enjoy prose fiction of any kind.

Young people emphatically included.

Even young devotees of "SF."

Who are legion.

Who are the majority of teenagers today.

But who no longer have to read anything to get their "SF" fix:

Not with television full of SF series and Hollywood cranking out SF movies and SF material dominating CD-ROMs and role-playing games and comic books and toy stores. Not with *Star Trek* and its numerous spin-offs and *Star Wars* with its mighty merchandising empire and *X-Files* and its proliferation of clones. Not when fast-food emporiums are even using "SF" to market greaseburgers.

"SF" is in the middle of a gigantic boom. How gigantic may only become obvious when LucasFilms launches its tie-in campaign for the new *Star Wars* movies.

"SF" rules!

But "science fiction" is in trouble. And so is the publishing industry. And for the same reason.

"Popular fiction" as an economically viable form of mass entertainment is finished.

Attempts to attract young people back to it by further dumbing down content are doomed. You can't win the race to the intellectual bottom against television. Attempts to woo young people to science fiction with reading lists and propaganda are just the sort of insultingly patronizing didacticism that will turn them off.

Nor do media tie-in novels lead people to more sophisticated science fiction. They lead people back to the media production of which they are spin-offs, to the CD-ROMs, and toys, and other tie-ins, including the next media tie-in novel in the same series.

Which, since they are minor cogs in integrated marketing machines, is precisely what they are designed to do.

In the twenty-first century, reading fiction for pleasure will be a relatively elite taste for relatively sophisticated people of all ages, and the fiction that will attract them will have to rise to their level.

And while this may mean that the total market for prose fiction will be smaller, this will not necessarily be a bad thing, for the market for fiction at the top of its form will not be diminished, and indeed, thanks to an economically driven diminution in the output of schlock, may actually be increased.

For the prose fiction of the future, science fiction emphatically included, will have to concentrate on doing what only prose fiction can do, rather than aping television and film.

Prior to the invention of photography, painting was the dominant human mode of visual reportage, and,

at least in the west, painters sought to develop techniques and methods for closer and closer mimesis of reality.

Photography killed that cultural function of painting, for photography could perform that function far better. But painting not only survived, it flourished. Under the evolutionary pressure of photography, it began to concentrate on doing things only painting could do instead of trying to compete with photography on its own mimetic turf.

Film, television, CD-ROMs, visual media in general, have now killed the "mass entertainment" function of prose fiction.

A macrocosmic consequence of this demise of "popular fiction" as a mass entertainment mode is that the cheap paperback original has become less important and less economically viable as a publishing mode, and with it formulaic genre fiction of all kinds, with the temporary exception of media tie-in novelizations, which have the momentum and promotion of major media conglomerates behind them.

The microcosmic corollary is that science fiction as "popular fiction," as "Littérature de la Gare," as a "genre," will not last long into the twenty-first century, since no "popular fiction" will. Attempts to preserve it as such will fail as surely as line-drawing failed to preserve itself against photography on the front pages of newspapers.

Evolve or die.

So what else is new?

Any form of publishing, any literature, that doesn't see this, that doesn't adapt to evolving reality, is up to its saurian tailbone in the tar pits already.

While the publishing industry as a whole doesn't seem to have at all recognized this situation, SF book publishing, having struggled with

the dialectic between "popular fiction" and more seriously intended stuff from the beginning, and being closer to its writers and readers, at least seems to be realizing that something is dying.

Some editors and even publishing executives therein, though they are not about to voice it for attribution, are beginning to understand that the packaging of SF is embarrassingly out of date, aimed as it is at a perceived audience that has become more and more non-existent. And the realization is growing that lines of "SF" combining science fiction and fantasy, works aspiring to literary merit and forthright schlock, as if they were interchangeable, may not be a viable survival strategy for the twenty-first century.

And on a literary level, science fiction writers, being by occupation visionaries, would seem to be groping with ways and means of getting ahead of the curve, both commercially and creatively.

One time-honored method of attempting to escape the genre trap, time-honored because it has worked from time to time, is the so-called "cross-over novel," science fiction packaged and marketed as something else.

Frank M. Robinson, for example, succeeded quite well with *The Power* as far back as 1956. This was a novel about a malignant mutant superman with psi powers, certainly straightforward science fiction, but it was published more or less as a "thriller," though that genre did not quite exist under its current formulaic definition at the time. While it didn't become a best seller, it did well enough to be deemed successful, and made it to the screen as the film of the same name.

And now, four decades later, Robinson has written, and Tor has published under its Forge imprint, *Waiting*, another novel about non-

Homo Sapiens among us with transhuman powers, straightforward science fiction by any meaningful literary standards, but published as a "thriller" in an attempt to break out of the commercial boundaries of the genre.

Without contending that *Waiting* is a rewrite of *The Power*, which it is not, there are parallels. In *The Power*, we have a mutant antagonist with transhuman mental powers. In *Waiting*, we have antagonists with transhuman powers too, but they are another species of genus Homo who have been around longer than we have, and have certain subhuman traits too.

Both *The Power* and *Waiting* are plotted as novels of menace, search, detection, discovery, and climactic confrontation. In *The Power*, the protagonist is revealed in the denouement to have transhuman powers himself. In *Waiting*, the protagonist, Dr. Arthur Banks, is all-too-thoroughly human and remains so throughout.

In a frontpiece, Robinson professes personal belief in the major speculative premise of *Waiting*, a bit much for me to swallow myself, but since *Waiting* is a novel that depends as much on the stepwise revelation of the nature of this major premise for its taut suspense as it does on physical jeopardy, I really can't argue the point here without being counterproductive to reader enjoyment of an excellent novel.

So I won't.

For while Frank Robinson's major premise may be rather improbable as actual science, it certainly is in the realm of the possible, which, by definition, makes it a perfectly acceptable speculative premise upon which to base a science fiction novel.

Which is what *Waiting* is by any coherent literary standard.

But it is packaged as a "thriller" and forthrightly proclaimed as such.

What makes *Waiting* a "thriller" and not "SF"?

Well, it is certainly a tightly plotted and suspenseful novel in which the reader identifies and empathizes with the cardiologist Banks, the "innocent" stumbling into a complex plot against humanity and being forced by personal circumstances to take action, both physical and investigative, *de rigueur* in the so-called "thriller" genre.

But this has also been the structure and source of narrative tension of hundreds and probably thousands of science fiction novels. Indeed, at least in some of its subsets, notably the so-called "techno-thriller," the thriller genre evolved directly out of science fiction. Indeed, to come full circle round, *The Power* was a science fiction novel vaguely positioned as a thriller before that genre existed and was one of the books that helped mutate a subset of SF into the "thriller," so that now, decades later, *Waiting* can be clearly published as such.

Why is *Waiting* a thriller and not SF?

Because Tor chose to publish it under its Forge imprint.

Tor's Forge line of books seems to be some kind of mutant-in-hiding itself, though what kind does not quite yet seem clear, since Tor doesn't seem to have quite figured it out itself yet.

Tor was created as a straightforward SF specialty house and that is what it has more dominantly remained through corporate takeovers and evolution into a major player, perhaps *the* major SF player in terms of being the largest and most literarily credible house concentrating on the publication of SF. It does not rely on media tie-ins as major cash cows. It has a large and literarily serious staff of experienced SF editors. It attempts a respectable level of quality control. It

has been, in short, a seriously minded publisher concentrating on forthright SF.

But therein, these days, lies the rub.

Clearly identifiable genre SF is in decline in terms of readership—and especially in terms of the readership for mass market paperbacks—for the macrocosmic reasons explored earlier. For those same reasons the demographics for same are not going to improve in the twenty-first century.

Whether the powers that be at Tor recognize this openly even to themselves may be problematical, but Forge seems to be an attempt to evolve a means for dealing with it.

Forge's raison d'être seems rather vague, perhaps even deliberately so. At times it seems like an attempt at a generalized "mainstream" line. At times, it seems like an attempt at a line of "thrillers." At all times, what it basically seems to be at this stage of its evolution is a line in which to publish fiction by Tor's extensive stable of SF writers that doesn't quite fit into their SF line and/or may have the potential to "break out" of the SF genre in terms of sales if packaged and promoted to do so.

A work in progress. A publishing mode of the twenty-first century in an early stage of evolution.

Surprisingly enough, it is in France, where for decades SF publishing has followed in the train of American events, that a radical experiment in the evolution of this sort of publishing is taking place—the reprinting of three mass market paperbacks by Roland C. Wagner by Fleuve Noir in more expensive trade editions.

For a decade and more, if you were a French SF writer and you wanted your stuff published regularly, let alone were attempting to make a living thereby, you pretty

much had to be published by Fleuve Noir, and given the pay scale, you had to crank it out at high speed, concentrating on novel series, preferably open-ended ones.

Fleuve Noir was and at least at the moment still is the archetypal publisher of "Littérature de la Gare"—cheap paperbacks with eye-catching garish covers in between which are to be found "popular fiction" in its various genres, the SF tending toward forthright space opera.

Think low-paying American pulp SF magazines of the 1930s and 1940s and you have an idea of the creative milieu in which Wagner's generation of French SF writers has been constrained to labor.

Think of it as paying dues, and lots of them. Roland Wagner himself, still not yet forty, is nevertheless the author of about forty novels, maybe a third of them pseudonymous in the not-so-grand old pulp tradition. Given that he did not leap from the womb already typing, one can see that he hasn't really had much time to catch his creative breath.

Still, Wagner is a writer of enormous energy, and while practice doesn't make perfect, one does not publish forty books before one's fortieth birthday without evolving, given that one has the talent to do it in the first place.

And with his current novel series for Fleuve Noir, *Les Futurs Mystères de Paris* (*Future Mysteries of Paris*, literal translation, but *Mysteries of Future Paris* being more to the point), Wagner has made a quantum leap rare among French SF writers, at least until lately, creatively, and perhaps commercially.

The third book in this series, *L'Odysée de l'Espèce*, originally published as a cheap Fleuve Noir paperback, won three major SF prizes, and, perhaps with an eye to-

ward the successful commercial strategy of Maurice G. Dantec's *Les Racines du Mal*, Fleuve Noir took the plunge and is reissuing the first three books in the series as trade paperbacks.

That's right, more expensive larger trade editions reprinting cheap SF mass market paperbacks. As what? Good question.

That's what makes the outcome of the experiment so potentially interesting on a transnational publishing level.

No genre logo or book-line name appears anywhere on the books. They are Fleuve Noir books, period. The front covers reprint the covers of the cheap paperbacks, but with the schlocko SF elements air-brushed out, slanting them toward the detective novel market. The back cover copy is quite forthright about identifying the content as science fiction but mentions "SF" only once.

Is *L'Odyssée de l'Espèce* a detective novel?

Well, its protagonist, Sacred Temple of the Radiant Dawn, Tem to his pals and sidekicks, is indeed a private eye in a future Paris, and the novel is structurally a murder mystery.

Is it a science fiction novel?

Novels don't get any more science fictional than *L'Odyssée de l'Espèce*, whose very title (translation: *Species Odyssey*) is a French pun on Kubrick's *2001: A Space Odyssey*. Nor is Wagner's future Paris merely another formulaic clone of the Blade Runner cyber demimonde thrown up as a set for a futuristic roman noir.

For one thing, Tem is a mutant with an exceedingly peculiar double-edged psychic power—transparency.

No, he can't make himself invisible, but people (and even computer records) have trouble remembering

that they've seen him from one moment to the next. Even while he's standing there.

This has obvious professional advantages for a private eye, but certain drawbacks too, and Tem wears a deliberately garish neon green hat when he wants to be remembered.

How Tem was born this way, why he has a name like Sacred Temple of the Radiant Dawn, the nature of Wagner's strange yet weirdly familiar future world, and much else arises from a cultural discontinuity called the Primitive Terror, which, unfortunately, occurred in a prequel novel, but whose full explication, fortunately, turns out to be intimately involved with Tem's solving of the double murder at the structural core of the novel.

As befits this sort of private eye novel, Tem's first person narration is breezy, wise-cracking, occasionally sardonic. He has the traditional assortment of sidekicks, the most bizarre, amusing, and science fictional of them being Gloria, a peripatetic smartass Artificial Intelligence with no fixed physical matrix, able to inhabit brains, computers, TVs, small appliances, whatever, able to manifest as almost anything, and given to doing so with a strange sense of humor.

So on a certain level *L'Odyssée de l'Espèce* can be taken as a comic novel. But there are deep speculative levels here, involving cultural anthropology, linguistics, psychopharmacology, among other things.

Most interesting and I suspect most passionately felt is the relationship that Wagner draws between what has now become the more or less standard science fictional Cybersphere and what he interchangeably calls the Psychosphere and the Jungian Collective Unconscious. And while the quantum physics he uses to justify the

leakage between them may not be much more than a science fictional device, Wagner's well-justified and insistent notion that the Collective Unconscious and the archetypes therein mutate with human linguistic and cultural evolution has the ring of one of those new truths that seem obvious once they have been explicated.

A drastic peculiarity of Tem's world in terms of setting a detective novel therein is that this is pretty much a non-violent culture, having been made so by its passage through the Primitive Terror. So while there are a few dust-ups, Wagner does not very much rely on fight scenes to maintain narrative tension.

Wagner's future Paris is quite strange on certain psychological and social levels, yet also intimately familiar, even for an American, an effect that Wagner achieves by extrapolating, macrocultural discontinuity or not, an intimate and seamless continuity between its pop culture and our own. What the world passed through during the Primitive Terror may be a historical mystery, but the people in Wagner's future collect old CDs from our time, for example, vinyl even, and are quite familiar with the musical history of rock and roll.

Why not? Will the world pop culture of the twenty-first century really forget Elvis and the Beatles and Dylan and the Stones? Wagner amply demonstrates that it will take more than bad drugs, genetic mutations, and a Primitive Terror to banish these mutant archetypes from the collective unconscious of the species' Psychosphere.

Which may have something to do with Fleuve Noir's decision to experiment with trade paperback reissues of genre SF mass market paperbacks in upscaled "polar" or "detective novel" packaging without at all concealing the complex sci-

ence fictional nature of the thematic material and the setting.

The "polar," or "roman noir," has always been more ambiguous of definition in France than the "detective novel" or "mystery novel" in America, as witness that "polar" doesn't really mean anything in French, and "roman noir" can only be translated as "black novel," which doesn't mean much either. This sort of stuff has also long had a certain literary cachet, or at least a subspecies of it written, one way or another, in the manner of *L'Odyssée de l'Espèce*; streetwise and connected to the reader through pop culture reference and metaphor.

Perhaps Fleuve Noir is betting that the roman noir style and plot structures of Wagner's *Future Mysteries of Paris* series will render the uncompromisingly science fictional content of the books accessible to a wider readership without having to hide the true nature of the novels. Since these are reprints, they can afford the gamble.

An experiment whose results American publishers should follow closely, because if it succeeds, the free lesson could be very valuable indeed to the future evolution of ventures like Forge.

On the other hand, while American SF publishers may still be trapped in genre marketing and packaging, what they find a way to publish in a commercially modest way within these old-fashioned constraints can still at times be admirably peculiar.

I have before me three novels, two of them first novels published in SF lines, and one of them by an established science fiction writer in a non-SF line. None of them are science fiction by any definition, but, paradoxically, none of them would have been likely to have been published under the aegis of other than an editor of an SF line.

The non-SF book by an established SF author is 253 by Geoff Ryman, published by St. Martin's Griffin, not its SF line, but apparently under the editorship of the editor thereof, Gordon Van Gelder.

The first novels are *The Physiognomy* by Jeffrey Ford, published by Avon in its Eos SF line, and *The Blood Jaguar* by Michael H. Payne, published by Tor in its regular SF line, not Forge.

These are three weird books.

They are three good books.

None of them, with the arguable exception of the Ford, fit any conventional definition of "SF" and certainly none of them are science fiction. Yet as the twentieth century wears down and the twenty-first century dawns, it is quite clear that none of them would have likely seen publication at all without the existence of the "SF" publishing mode.

The Physiognomy is, at least in this strange company, the least unconventional of the three. It takes place somewhere or nowhere in space and time in a land or world or reality dominated by the Well-Built City.

In other words, it would seem to be the sort of fantasy set in an imaginary land entirely disconnected from our own. It is a peculiar fantasy world, however, mingling a medieval feel with rather advanced technology, magical powers with science.

The Well-Built City is a cynical hierarchical theocracy dominated by its creator, who modestly styles himself the Master, via a melange of science, magic, ruthless realpolitik, ward-heeling, an efficient modern Gestapo, and the Physiognomy of the title, a pseudoscience not unlike phrenology or for that matter its extension into Nazi "race science," whereby a person's guilt or innocence of past or even future acts may be read by an adept from facial fea-

tures, body shape; cranial bumps, and so forth.

Cley, the protagonist, is such a Physiognomist; secret policeman, prosecutor, judge, and jury, and not surprisingly, given the nature of his occupation, an insufferable, arrogant, sarcastic, self-righteous shit.

What is surprising is how Jeffrey Ford makes you enjoy reading this moral monster's hateful, puling, vicious, twisted, disgusting first person narration of the first half or so of the novel. It's quite literally a tour de force as Cley escorts us on his scourging path through this repellent yet fascinating and well-rendered society, something like having a Heinrich Himmler with the sardonic wit of a William Buckley proudly giving you the grand tour of the Third Reich.

And if Cley may be likened to Himmler, then of course the Master is his Fuehrer, made even worse by the sleazy cynicism of a snake-oil salesman from Oz.

Well, with this sort of thing, you know what is going to happen, and unfortunately it does. Cley loses his ability to read physiognomy, becomes a victim of the very machineries of which he was a master, achieves deeper and deeper knowledge of the true nature of his society and its leader, reforms, becomes involved in a kind of revolution, and the novel concludes with an apocalypse out of which Cley may or may not be segueing into a sequel. . . .

Thus, *The Physiognomy* illustrates both a grace and a corruption of the state of SF publishing at the dawn of the twenty-first century.

Whatever the flaw of its second half, this is a novel well worth reading and well worth publishing, and one that it is hard to imagine finding publication anywhere but within an SF line, given the state of American publishing in general. That is a grace of SF publishing.

There is nowhere else where such work is likely to see the light of day.

The corruption that *The Physiognomy* illustrates is that whether by editorial or authorial design or under karmic pressure, the novel's interest seems to attenuate in the second half, seems to veer toward more conventional genre expectations in terms of plot, even in terms of setting up a possible sequel at the end, as Cley evolves toward a more conventional SF protagonist, as the gloriously and outrageously repellent sardonic wit fades away in the light of his moral reformation.

That SF publishing can find a place for a novel like *The Physiognomy* that would otherwise probably be a literary orphan is all to its credit. That the book somehow seems to deform itself to fit the expectations thereof is not. That is one of the dichotomies at the heart of current SF publishing. Whether there is a sequel or not will tell an interesting tale. Possibly appalling, but certainly interesting.

253 by Geoff Ryman is not, at least in terms of content, science fiction or SF or fantasy at all and may not even be a novel. It is called "253, the Print Remix," and that is what it more or less is, a "print remix" or version of an on-line work of fiction.

253 is the "story" or "stories" of 253 people (252 passengers plus the motorman) on a seven car London Tube train on its way from the Embankment Station to Elephant and Castle. The book consists of descriptions of what is going on with each of them, in terms of "Outward Appearance," "Inside Information," and "What They Are Doing or Thinking." Each passenger has exactly one page in the book. Each passenger's section consists of precisely 253 words, not counting footnotes. Some of their lives intersect. Some do not.

Why Geoff Ryman set out to write such a book (or web site) is beyond me. How he manages to not only fulfill the rigid parameters of this maniacal formal straitjacket but make the results both dramatically gripping and entertaining is an act of literary prestidigitation.

Science fiction?

Fantasy?

"SF"?

Certainly not in terms of content. But it is hard to imagine a writer not steeped in some elusive SF ethos being able to pull such a thing off successfully.

Yes, so-called avant garde post-modernists may be fond of this sort of formally driven experimental fiction, but much more often than not, the result is about as dramatically entertaining as a laboratory report, and the only real readership is other "experimental writers."

Proving, if nothing else, that there is a world of difference between a literary experiment, which may be performed by anyone with a computer and a printer, and an experiment that works, like 253, which requires art, wit, human empathy.

253 is arguably "SF" the way John Sladek's successful experiments in getting arbitrarily programmed fictional schemas to produce funny stories in the 1960s and 1970s were "SF."

"Speculative fiction," that is.

Fiction whose speculative element is not to be found in the content but in the very form of the fiction; indeed, beyond conceptions of form, and in the very method by which or under whose parameters the formal construction was made.

Is this a specious argument?

Well, maybe.

But if so, a useful one of the sort one might easily enough imagine an editor of an SF line using on an editorial committee to persuade them

to allow him to somehow publish such a book.

And because Geoff Ryman is a writer of SF of note, and because it is the readership for SF that is most open to the speculative spirit of this sort of thing, linking a book like *253* to "SF" is probably the best way to secure it an audience beyond that of other writers interested in experimentation for its own sake.

The Blood Jaguar by Michael H. Payne is a first novel. It takes place on what may be an alien planet, or an alternate world, or the far future, all its characters are sentient talking animals, the main protagonist is a dope-smoking Bobcat, and while the novel has its humorous aspects, these are not funny cartoon animals. They are realistically rendered characters with considerable psychological depth.

The story is basically Bobcat's vision quest through this strange and yet familiar landscape peopled, and that is the word, by familiar terrestrial fauna mutated seemingly by pure authorial fiat into sentient beings without losing their basic species-specific quirks, accompanied by a Skink and a Fisher as his spirit guides, pursued by the mysterious Jaguar of the title.

Is this science fiction? Is this fantasy? Is this speculative fiction? Is this SF?

What the hell is it?

Beats me.

And apparently the editor who bought it for Tor, too, Algis Budrys. He sent me the manuscript with a bemused note saying it was about the damndest weird novel he had ever seen.

And I can only agree.

The Blood Jaguar fits into no existent genre, not even with the aid of a literary shoehorn. Nor, talking animals or not, is it in any way a novel aimed at other than a sophisticated adult audience.

I also agree with Budrys and whoever else was involved in the decision by Tor to publish *The Blood Jaguar* as "SF" that it is a fine novel well worth publishing.

But why publish it as "SF"?

You got a better idea?

To its credit, despite, or perhaps in part because of its perilous commercial circumstances, SF publishing still maintains enough idealism to publish worthy work that doesn't remotely fit its genre parameters, work that cannot otherwise be published in the current marketplace, just because it can. Because it still knows that if it can, it damn well should.

And that is where general American fiction publishing and SF publishing would seem to be at the dawning of the twenty-first century.

Thanks to the conglomeratization of the publishing industry, the growing monopolization of the distribution and retailing of books, the resultant best-seller mass market mentality, and the failure of the publishing industry to yet realize that "popular fiction" as literary television for the masses is becoming economically non-viable, much of the most interesting fiction being written is not and cannot be published under so-called "mainstream" imprints.

Thanks to the academic dichotomization of fiction into "serious literature" and "popular fiction," the former has pretty much degenerated into narrow-focus formalism appealing mainly to the creators thereof and a small mandarin and therefore without a readership wide enough to support it economically. And the latter has been left to fend for itself as it staggers toward the tar pits the twenty-first century has reserved for it.

Thanks to the decline of the audience for popular fiction in general in the age of television, film, and video

games, and the onslaught of an "SF media industry" grown far larger than book publishing, the SF publishing industry finds itself standing at what in one way is a fateful crossroads but in another is the same quandary it has been in at least since the 1960s.

It cannot be denied that modern SF publishing is the descendant of the pulp magazine and the popular fiction paperback. It cannot be denied that as much forthright schlock has been published under SF logos as "romance" or "mystery" or "western."

But I do believe that when the literary history of the twentieth century is written from the perspective of the turn of the twenty-second, it will not be denied that speculative fiction in its various modes—science fiction, fantasy, Magic Realism, surrealism, etc.—was its dominant literature.

Nor from that distant perspective will it be denied that much of the best of it, perhaps most of the best of it, was, by a quirk of fate, published cheek-by-jowl with commercial "popular fiction."

That, for random examples, Gregory Benford had more to say about the relationship between the "two cultures" of science and the humanities than C.P. Snow and said it better, that Thomas Mann was a metaphysical novelist of note approaching the level of Philip K. Dick but not that closely, that one of the great literary stylists of the age was Jack Vance, that the true spiritual heirs of the long tradition of American literary transcendentalism were constrained to see their works published with rocketships on the covers.

Alone of the "genres" of twentieth-century "popular fiction," "SF" may truly lay claim to having produced a significant body of the era's best literary work, to have been a dominant force, even *the* dominant force,

in the evolution of what will become the literature of the twenty-first century.

If there is to be a literature of the twenty-first century.

For there is no guarantee. The written word as a medium for fiction will not survive by attempting to ape the visual media either in terms of audience demographics or artistic angle of attack any more than painting could have survived the advent of photography by attempting to beat the camera at its own game.

Prose fiction can only survive, can only secure its twenty-first-century audience, by doing what only prose fiction can do and the visual media cannot.

Only prose, via style, can portray the consciousness of sentient beings itself, and, by the mutation of style, both portray states of consciousness that have never before existed and call them into being within the mind and spirit of the reader.

Only prose, via image and metaphor, can truly take its audience beneath the phenomenological surface of reality on voyages through the depths and heights, the terrors and grandeurs, of what lies above and beneath.

Only prose fiction, via style, image, and metaphor, can truly and fully illumine the ultimate subject of all fiction—the interface and feedback relationship between an ever-mutating external reality and the internal realm of individual consciousness.

Sound vaguely familiar?

Sound a bit like an esthetic definition of speculative fiction?

For over half a century now, SF has wrestled to a draw with the conundrum at its core, the dichotomy between its true literary and visionary nature and its evolution by happenstance as a "genre" of "popular fiction." Neither writers, nor edi-

tors, nor publishers have yet resolved that existential paradox.

But now, as the twenty-first century approaches, that paradox is in the process of being resolved for us, and science fictionally enough by the evolution of technology, by film and television, by CD-ROMs and DVD.

"SF" will not survive long into the twenty-first century as a subset of "popular fiction" or "genre fiction" because the audience for same is being captured by the visual media.

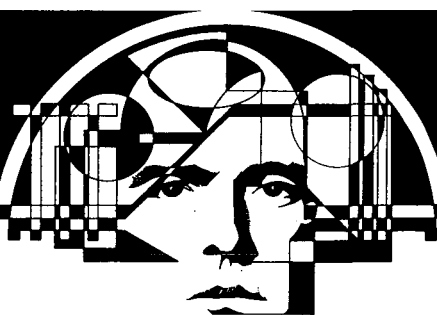
"SF" will survive as a visionary literature using style, image, and metaphor to explore and mutate the interface between external reality and consciousness, to do what only prose fiction can do, or it will not survive at all.

And if it doesn't survive the change, it just might be that no prose fiction will, that the exfoliation, the speciation of new forms and modes of prose fiction that should emerge beyond this narrow evolutionary nexus, may never happen.

Who, us?

That's an awfully heavy evolutionary burden to place on the shoulders of wee little creatures scurrying to survive around the feet of far more powerful life-forms.

I have the feeling that our remote proto-mammalian ancestors might have made just the same plaint as they nimbly dodged the mighty final footsteps of the dinosaurs plodding dully off the scene to the dustbin of evolutionary history. O



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11-13—**AgamemCon**. For info, write: 92 Corporate Pk. C-330, Irvine CA 92606. Or phone: (949) 643-8352. (Web) www.agamemcon.com. (10 AM to 10 PM, not collect). Con will be held in: Burbank CA (if city omitted, same as in address) at the Airport Hilton. Guests will include: Wayne Alexander, Maggie Egan.

11-13—**Foolsap**. (E-mail) foolsap@alexelcom.net. Seattle WA. SF, fantasy, comics & art creators & business people.

11-13—**DuckKon**. (Web) shoga.wwwa.com/~duckon/. O'Hare Ramada, Chicago IL. Pohl, Ellisa Mitchell, G. & G. Leathers.

11-13—**PhenomiCon**. Holiday Inn Market Sq., High Point NC. X-Files, unexplained phenomena, conspiracy theories.

12-14—**Force Three**. (03) 9416-8998 (phone/fax). Karralyka Centre, Mines Rd., Ringwood VIC, Australia. Star Wars.

13-July 24—**Clarion**. (517) 355-9598. (E-mail) sherida3@pilot.msu.edu. MI State U., E. Lansing MI. Writers' workshop.

14-July 23—**Odyssey**. (603) 673-6234. NH College, Manchester NH. Bova, Bisson, Cavelos. Writers' workshop.

18-20—**Tranquility Base**. (513) 942-5256. Sabin Convention Center, Cincinnati OH. Furlan, Curtis, others. Media SF.

18-20—**Ozmpolitan**. Lake Lawn Lodge, Lake Lawn WI. For fans of the Wizard of Oz & its creator, L. Frank Baum.

24-27—**MidwestCon**, 34 Creekwood Sq., Glendale OH 45246. (E-mail) scottst@ix.netcom.com. Blue Ash, Cincinnati OH.

24-July 1—**American Library Conference**, 50 E. Huron, Chicago IL 60611. (312) 280-3219. New Orleans LA. Trade con.

25-27—**DarkCon**. (602) 978-9314. San Marcos Hotel, Chandler AZ. G. C. Johnson, W. F. Nolan. Dark fantasy & horror.

25-27—**ConEstoga**, Box 54037, Tulsa OK 74155. (918) 836-5463. Sheraton. Turtledove, D. L. Anderson, G. Dozois.

25-27—**Monster Bash**, Box 213, Ligonier PA 15658. (E-mail) bat13@westol.com. Holiday Inn, Monroeville PA. Horror film.

JULY 1999

1-4—**DragonCon**, Box 47698, Atlanta GA 30362. (770) 909-0115. Hyatt Regency. Comics, gaming & SF. 10,000+ expected.

1-4—**Origins**, 129 N. Hamilton Rd., Box 13500, Columbus OH 43213. (800) 529-3976. Hyatt. Big gaming meet of the year.

1-5—**WesterCon**, Box 7477, Spokane WA 99207. (509) 891-5762. Doubletree City Center, Spokane. WA. West's big meet.

2-4—**InConJunction**, Box 19776, Indianapolis IN 46219. (E-mail) incon@indy.net. Marriott. B. Forstchen, P. Rawlings.

2-4—**ConVergence**, Box 13208, Dinkytown Stn., Minneapolis MN 55414. (612) 936-9224. Radisson South, Bloomington MN.

2-4—**AnthroCon**, Box 60445, King of Prussia PA 19406. (E-mail) anthrocon@anthrocon.org. Hilton. V. Wyman. Furry fans.

3-4—**Wolf**, 23 Osprey Close, Falcon Way, Garston, Watford WD2 4RX, UK. Heathrow Radisson, London. Boxleitner. Media.

9-11—**ReaderCon**, Box 381246, Cambridge MA 02238. (E-mail) zeno@mit.edu. Westin, Waltham MA. Written SF & fantasy.

AUGUST 1999

26-29—**Conucopia**, Box 8442, Van Nuys CA 91409. Anaheim CA. Pournelle. The North American SF Con (NASFiC). \$100.

SEPTEMBER 1999

2-6—**AussieCon 3**, Box 688, Prospect Heights IL 60070. Melbourne, Australia. Gregory Benford. The WorldCon. US \$155.

AUGUST 2000

31-Sep. 4—**ChiCon 2000**, Box 642057, Chicago IL 60664. Bova, Eggleton, Baen, Turtledove, Passovoy. WorldCon. \$135.

AUGUST 2001

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New writer **Andy Duncan**, whose story "Beluthahatchie" stirred-up a lot of talk and acclaim here in 1997, returns with a complex, powerful, and evocative new novella, taking us back to a vividly realized vision of the Depression-era South, to an ordinarily sleepy little town that now simmers and bubbles beneath the surface with racial tension, to a world that seems to be holding its breath, waiting for something awful to happen, and introduces us to the grim and enigmatic members of a mysterious, sinister, and millennia-old organization known as "The Executioners' Guild" . . .

TOP-FLIGHT WRITERS

Hugo and Nebula Award-winner **Geoffrey A. Landis** takes us to one of the remotest regions of space, to one of the strangest planets in the solar system, in company with some intrepid explorers who are about to take a suspenseful, perhaps deadly, and ultimately quite surprising plunge "Into the Blue Abyss"; Nebula and Hugo-winner **Kim Stanley Robinson** gives us an incisive look at how "Arthur Sternbach Brings the Curveball to Mars"; **Judith Berman** returns to explore a future that is definitely not dominated by Mankind, and shows us the bittersweet and moving view that can be seen from "The Window"; new writer **William H. Keith, Jr.** makes an impressive *Asimov's* debut, taking us to a tumultuous future Mars that's in the midst of being terraformed whether all of its inhabitants want it to be or not, and for a fast-paced and nail-bitingly exciting study of different kinds of "Fossils"; veteran author **Tom Purdom** takes us to an Alternate World where they know which jobs are best left to the Ladies, in the wry "Woman's Work"; and **Valerie J. Freireich** returns after too long an absence with a sharp and funny investigation into the surprising intricacies of "Suburban Ecology."

EXCITING FEATURES

Robert Silverberg's "Reflections" column assures us that "The Wheel Keeps Turning"; and **Paul Di Filippo** brings us "On Books"; plus an array of cartoons, poems, letters, and other features. Look for our August 1999 issue on sale on your newsstand on July 13, 1999, or subscribe today (you can now also subscribe electronically, online, at our new *Asimov's* Internet website, at <http://www.asimovs.com>), and be sure that you miss none of the great stuff we have coming up for you this year!

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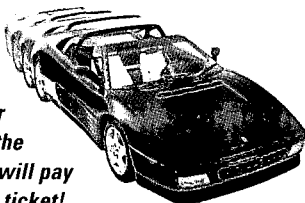
The solution.

Today, Rocky Mountain Radar offers drivers like me a perfect solution—the Phazer. The Phazer makes your automobile electronically "invisible" to police speed-detecting equipment. The radar component works by mixing an X, K or Ka radar signal with an FM "chirp" and bouncing it back at the squad car by way of a waveguide antenna, effectively confusing the computer inside the radar gun. The laser component transmits an infrared beam that has the same effect on laser Lidar units.

Perfectly legal. Some radar devices have been outlawed because they *transmit* scrambling radar beams back to the waiting law enforcement vehicle. The Phazer, however, *reflects* a portion of the signal plus an added FM signal back to the police car. Unless you are a resident of California, Minnesota, Oklahoma, Virginia or Washington, D.C., using the Phazer is completely within your legal rights.

Encourage responsible driving. While the Phazer is designed to help you (and me)

■ **The Phazer makes your car invisible to police radar and lasers or the manufacturer will pay your speeding ticket!**



The Phazer is only 3"W x 4"L x 1.5"H!



avoid speed traps, it is not intended to condone excessive speeding. For

The Phantom is only 4"W x 4"L x 1.5"H



that reason, within the first year, the manufacturer will pay tickets where the speed limit was not exceeded by more than 30%, or 15 miles per hour, whichever is less.

Double protection. If you prefer to be notified when you are in range of a police radar, the Phantom is for you. The Phantom combines the Phazer with a radar detector. It's legal in every state except California, Minnesota, Oklahoma, Virginia and Washington, D.C. Ask your representative for more details!

Risk-free. The Phazer and Phantom are both backed by our risk-free trial and three-year manufacturer's warranty. Try them, and if you're not satisfied, return your purchase within 90 days for a "No Questions Asked" refund.

The Phazer:

Three credit-card payments of \$66.50 \$14 S&H

The Phantom:

Three credit-card payments of \$116.50 \$18 S&H

Please mention promotional code **4242-15829**.

For fastest service, call toll-free 24 hours a day

800-399-7863



To order by mail, send check or money order for the total amount including S&H. To charge it to your credit card, enclose your account number and expiration date.

Virginia residents only—please add 4.5% sales tax.

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2820 Waterford Lake Drive, Suite 102 Midlothian, VA 23113

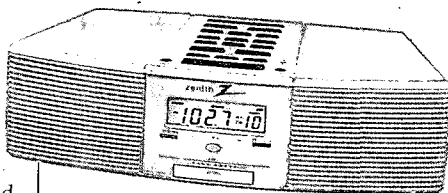
Big sound from a stereo radio—without the big price!

Zenith Audio, a leading electronics manufacturer designs a "Small Footprint," "Big Sound" stereo system and drives the price below \$100.

Zenith Audio has developed a Digital Stereo Clock Radio that boasts the acoustic quality and practical features of stereo radios four times as expensive. You'll be amazed at the sound quality and powerful bass you get from a radio this small and this affordable. This stereo radio features an 11-key handheld remote control and an input jack for CD players or other audio sources.

Loaded with features. The AM/FM radio features digital tuning for pinpoint reception and crystal-clear sound. The STEREO indicator allows you to tune in to the stereo signal. It also picks up TV and WEATHER signals with 13 TV channels and 7 Weather channels, so your Zenith Audio Clock Radio is a great source of news, entertainment and information. You can program the unit's memory for 37 preset stations, and the tuning buttons can operate either manually or in a automatic search mode.

Practical functions. The backlit clock has several alarm functions, so you can wake to either radio, TV, weather or a buzzer. The sleep timer allows you to fall asleep to up to 90 minutes of music, TV or weather and then shuts off automatically. In the morning, if you need a few extra minutes of sleep, press the SNOOZE bar on the control panel or on the remote. The radio or alarm tone stops for 10 minutes and then sounds



Micro-Electronic Sound Breakthrough

State of the art stereo sound quality in a stylish cabinet

- I AM/FM/TV Bands**
- I Stereo Speakers with Crystal Sound System**
- I Digital Weather Band**
- I 37 Preset Station Memories**
- I Ascending Tone Alarm**
- I Wake/Sleep to Radio, Weather or TV Band**
- I "Fail-safe" Alarm System**

again. The unit's battery backup system will maintain the time, alarm and preset station memories in the event of a temporary power interruption.

Factory direct risk-free offer. You can spend hundreds of dollars more on a stereo radio, but why do it? We get the Stereo Clock Radio direct from Zenith and pass the savings on to you. This product comes with a one-year manufacturer's limited warranty and Comrad's exclu-

sive risk-free home trial. If you are not satisfied for any reason, simply return it within 90 days for a full "No Questions Asked" refund.

Zenith Crystal Clear Stereo. \$99.95 \$12 S&H
Please specify white or black.

Please mention promotional code 4242-15827.

For fastest service, call toll-free 24 hours a day

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To order by mail, send check or money order for the total amount including S&H. To charge it to your credit card, enclose your account number and expiration date.

Virginia residents only—please include 4.5% sales tax.



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